Baskar, P.
10/769514

FILE 'REGISTRY' ENTERED AT 15:53:36 ON 18 MAY 2006

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 17 MAY 2006 HIGHEST RN 884739-24-6
DICTIONARY FILE UPDATES: 17 MAY 2006 HIGHEST RN 884739-24-6

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

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*                                                                    *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,   *
* effective March 20, 2005.  A new display format, IDERL, is now    *
* available and contains the CA role and document type information. *
*                                                                    *
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Structure search iteration limits have been increased. See HELP SLIMITS for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

- key terms

```
                E TRANSFERRIN BINDING PROTEIN A/CN 5
L1              1 S E5
                E TRANSFERRIN BINDING PROTEIN 1/CN 5
L2              6 S E4-9
                E "TRANSFERRIN-BINDING PROTEIN A"/CN 5
L3             19 S E4-E22
L4             24 S L1 OR L2 OR L3
```

FILE 'HCAPLUS' ENTERED AT 15:53:36 ON 18 MAY 2006

Searcher : Shears 571-272-2528

FILE COVERS 1907 - 18 May 2006 VOL 144 ISS 21
FILE LAST UPDATED: 17 May 2006 (20060517/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

L1 1 SEA FILE=REGISTRY ABB=ON PLU=ON "TRANSFERRIN BINDING PROTEIN B (NEISSERIA MENINGITIDIS STRAIN Z2491 (ALLELE 1) GENE TBPB ALLELE 1 FRAGMENT)"/CN

L2 6 SEA FILE=REGISTRY ABB=ON PLU=ON ("TRANSFERRIN BINDING PROTEIN 1 (NEISSERIA MENINGITIDIS STRAIN B16B6 CLONE PBMT1 GENE TBP1 PRECURSOR)"/CN OR "TRANSFERRIN BINDING PROTEIN 1 (NEISSERIA MENINGITIDIS STRAIN M982 CLONE PTG3720 GENE TBP1 PRECURSOR)"/CN OR "TRANSFERRIN BINDING PROTEIN 2 (NEISSERIA MENINGITIDIS STRAIN B16B6 CLONE PBMT1 GENE TBP2 PRECURSOR)"/CN OR "TRANSFERRIN BINDING PROTEIN 2 (NEISSERIA MENINGITIDIS STRAIN M982 CLONE PTG3720 GENE TBP2 PRECURSOR)"/CN OR "TRANSFERRIN BINDING PROTEIN A PRECURSOR (NEISSERIA MENINGITIDIS STRAIN Z2491 GENE TBPA)"/CN OR "TRANSFERRIN BINDING PROTEIN B (NEISSERIA MENINGITIDIS STRAIN Z2491 (ALLELE 1) GENE TBPB ALLELE 1 FRAGMENT)"/CN)

L3 19 SEA FILE=REGISTRY ABB=ON PLU=ON ("TRANSFERRIN-BINDING PROTEIN A (ACTINOBACILLUS SUIS STRAIN C84 GENE TBPA PRECURSOR)"/CN OR "TRANSFERRIN-BINDING PROTEIN A (ACTINOBACILLUS SUIS STRAIN SO4 GENE TBPA PRECURSOR)"/CN OR "TRANSFERRIN-BINDING PROTEIN A (MORAXELLA CATARRHALIS STRAIN 4223 GENE TBPA)"/CN OR "TRANSFERRIN-BINDING PROTEIN A (MORAXELLA CATARRHALIS STRAIN Q8 GENE TBPA)"/CN OR "TRANSFERRIN-BINDING PROTEIN A (NEISSERIA MENINGITIDIS STRAIN K454 GENE TBPA)"/CN OR "TRANSFERRIN-BINDING PROTEIN A (NEISSERIA MENINGITIDIS STRAIN Z2491 GENE TBPA)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (ACTINOBACILLUS SUIS STRAIN C84 GENE TBPB PRECURSOR)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (ACTINOBACILLUS SUIS STRAIN SO4 GENE TBPB PRECURSOR)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (MORAXELLA CATARRHALIS STRAIN 3 GENE TBPB)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (MORAXELLA CATARRHALIS STRAIN 4223 GENE TBPB)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (MORAXELLA CATARRHALIS STRAIN LES-1 GENE TBPB)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (MORAXELLA CATARRHALIS STRAIN M35 GENE TBPB)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (MORAXELLA CATARRHALIS STRAIN Q8 GENE TBPB)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (MORAXELLA CATARRHALIS STRAIN R1 GENE TBPB)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (NEISSERIA MENINGITIDIS CLONE PM153 OUTER MEMBRANE-ASSOCIATED GENE TBPB)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (NEISSERIA MENINGITIDIS STRAIN B16B6)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (NEISSERIA MENINGITIDIS STRAIN K454 GENE TBPB)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (NEISSERIA MENINGITIDIS STRAIN Z2491 GENE TBPB)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (PISCIRICKETTSIA SALMONIS GENE TBPB)"/CN)

L4 24 SEA FILE=REGISTRY ABB=ON PLU=ON L1 OR L2 OR L3

L5 2768 SEA FILE=HCAPLUS ABB=ON PLU=ON L4 OR (TBP OR TRANSFERRIN BIND? PROTEIN)(2A)(1 OR 2 OR A OR B) OR TBPA OR TBPB OR TBP1 OR TBP2

L6 36 SEA FILE=HCAPLUS ABB=ON PLU=ON L5 AND (MORAXELLA OR BRANHAEMELLA OR BRANHAMELLA)

Searcher : Shears 571-272-2528

L7 15 SEA FILE=HCAPLUS ABB=ON PLU=ON L6 AND (ANTIBOD? OR MOAB OR MAB)

L7 ANSWER 1 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN
ED Entered STN: 25 Dec 2005
ACCESSION NUMBER: 2005:1338405 HCAPLUS
DOCUMENT NUMBER: 144:106206
TITLE: Antigenic specificity of the mucosal **antibody** response to **Moraxella** catarrhalis in chronic obstructive pulmonary disease
AUTHOR(S): Murphy, Timothy F.; Brauer, Aimee L.; Aebi, Christoph; Sethi, Sanjay
CORPORATE SOURCE: Division of Infectious Diseases, University at Buffalo, State University of New York, Buffalo, NY, USA
SOURCE: Infection and Immunity (2005), 73(12), 8161-8166
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB **Moraxella** catarrhalis is an important human mucosal pathogen causing otitis media in children and lower respiratory tract infection in adults with chronic obstructive pulmonary disease (COPD). Little is known about the mucosal **antibody** response to M. catarrhalis in adults with COPD. In this study, 10 pairs of well-characterized sputum supernatant samples from adults with COPD who had acquired and subsequently cleared M. catarrhalis from their respiratory tracts were studied in detail in an effort to begin to elucidate potentially protective immune responses. Flow cytometry anal. was used to study the distribution of Ig isotypes in paired preacquisition and postclearance sputum samples. The results showed that IgA is the predominant M. catarrhalis-specific Ig isotype and that the sputum IgA contains a secretory component, indicating that it is locally produced at the mucosal site. Most patients made new sputum IgA responses to the adhesins UspA1 and Hag, along with the surface protein UspA2. A smaller proportion of patients made new sputum IgA responses to the iron-regulated proteins **TbpB** and CopB and to lipooligosaccharide. These results have important implications in understanding the mucosal immune response to M. catarrhalis in the setting of COPD and in elucidating the elements of a protective immune response.
REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN
ED Entered STN: 10 Jun 2005
ACCESSION NUMBER: 2005:494411 HCAPLUS
DOCUMENT NUMBER: 143:42455
TITLE: Identification of surface antigens of **Moraxella** catarrhalis as targets of human serum **antibody** responses in chronic obstructive pulmonary disease
AUTHOR(S): Murphy, Timothy F.; Brauer, Aimee L.; Aebi, Christoph; Sethi, Sanjay
CORPORATE SOURCE: Division of Infectious Diseases, University at Buffalo, State University of New York, Buffalo, NY, USA
SOURCE: Infection and Immunity (2005), 73(6), 3471-3478

CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Moraxella** catarrhalis is an important respiratory tract pathogen, causing otitis media in children and lower respiratory tract infections in adults with chronic obstructive pulmonary disease (COPD). Adults with COPD make **antibody** responses to M. catarrhalis following infection, but little is known about the identity of the antigens to which these **antibodies** are directed. In this study, 12 serum samples obtained from adults with COPD who had cleared M. catarrhalis from the respiratory tract following infection and who had developed new serum IgG to their infecting strain were subjected to a series of assays to identify the antigens to which potentially protective **antibodies** were directed. Sera were adsorbed with intact bacterial cells, and **antibodies** were eluted from the surfaces of the bacteria. Anal. by flow cytometry established that adsorption and elution effectively detected **antibodies** specifically directed to surface-exposed epitopes. Immunoblot assays of adsorbed and eluted serum fractions were performed with purified outer membranes and purified lipooligosaccharide of homologous infecting strains and with a series of mutants deficient in expression of individual outer membrane proteins (OMPs). While heterogeneity in **antibody** responses among individuals was observed, five major OMPs, UspA1, UspA2, Hag, **TbpB**, and OMP CD, were identified as targets of **antibodies** to surface epitopes in the majority of adults with COPD who cleared the organism. These results have important implications in understanding human immune responses to M. catarrhalis and in elucidating the elements of a protective immune response.

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 3 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN
ED Entered STN: 24 Dec 2004
ACCESSION NUMBER: 2004:1126840 HCAPLUS
DOCUMENT NUMBER: 142:73414
TITLE: Transferrin-binding peptides and **antibodies** for preventing and treating bacterial infection
INVENTOR(S): Schryvers, Anthony Bernard
PATENT ASSIGNEE(S): Can.
SOURCE: U.S. Pat. Appl. Publ., 27 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 2004258695	A1	20041223	US 2004-769514		20040130
PRIORITY APPLN. INFO.:			US 2003-444113P	P	20030131

AB The present invention relates to transferrin-binding mols., particularly peptides, that can (a) bind to regions of transferrin that are recognized by a bacterial **transferrin binding protein**, and (b) elicit **antibodies** specifically recognizing the transferrin binding

protein. Also provides are compns., pharmaceutical compns., and particularly vaccines comprising the mols., as well as **antibodies** against the mols. The mols. can be used to prevent or treat bacterial infections.

L7 ANSWER 4 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN
ED Entered STN: 22 Feb 2004
ACCESSION NUMBER: 2004:142989 HCAPLUS
DOCUMENT NUMBER: 140:180125
TITLE: Vaccine composition comprising transferrin binding protein and Hsf against Neisseria meningitidis, Neisseria gonorrhoeae, **Moraxella** catarrhalis and Haemophilus influenzae
INVENTOR(S): Berthet, Francois-xavier Jacques; Biemans, Ralph; Denoel, Philippe; Feron, Christiane; Goraj, Carine; Poolman, Jan; Weynants, Vincent
PATENT ASSIGNEE(S): Glaxosmithkline Biologicals S.A., Belg.
SOURCE: PCT Int. Appl., 64 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 6
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004014419	A1	20040219	WO 2003-EP8567	20030731
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2489030	AA	20040219	CA 2003-2489030	20030731
AU 2003253375	A1	20040225	AU 2003-253375	20030731
EP 1524991	A1	20050427	EP 2003-784151	20030731
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
BR 2003013100	A	20050621	BR 2003-13100	20030731
CN 1671413	A	20050921	CN 2003-818454	20030731
JP 2006505628	T2	20060216	JP 2005-506111	20030731
NO 2005000010	A	20050209	NO 2005-10	20050103
US 2006034854	A1	20060216	US 2005-523114	20050802
PRIORITY APPLN. INFO.:			GB 2002-18035 A	20020802
			GB 2002-18036 A	20020802
			GB 2002-18037 A	20020802
			GB 2002-18051 A	20020802
			GB 2002-20197 A	20020830
			GB 2002-20199 A	20020830

GB 2002-25524	A	20021101
GB 2002-25531	A	20021101
GB 2002-30164	A	20021224
GB 2002-30168	A	20021224
GB 2002-30170	A	20021224
GB 2003-5028	A	20030305
WO 2003-EP8567	W	20030731

AB The present invention relates to immunogenic compns. and vaccines for the prevention or treatment of Gram neg. bacterial infection. Immunogenic compns. of the invention comprise transferrin binding protein and Hsf, and the combination of these two antigens have been shown to act synergistically to produce **antibodies** with high activity in a serum bactericidal assay. This combination of antigens is useful for use in vaccines against Neisseria meningitidis, Neisseria gonorrhoeae, **Moraxella** catarrhalis and Haemophilus influenzae.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 5 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN
ED Entered STN: 22 Feb 2004
ACCESSION NUMBER: 2004:142987 HCAPLUS
DOCUMENT NUMBER: 140:180124
TITLE: Engineered meningococcal strains comprising LOS subunit or outer membrane vesicle with downregulated or deleted PorA, OpA and/or OpC for use as neisserial vaccines
INVENTOR(S): Biemans, Ralph; Denoel, Philippe; Feron, Christiane; Goraj, Karine; Poolman, Jan; Weynants, Vincent
PATENT ASSIGNEE(S): Glaxosmithkline Biologicals SA, Belg.
SOURCE: PCT Int. Appl., 51 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 6
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004014417	A2	20040219	WO 2003-EP8568	20030731
WO 2004014417	A3	20040722		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,

	EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2493124		AA	20040219	CA 2003-2493124	20030731
AU 2003260357		A1	20040225	AU 2003-260357	20030731
EP 1524992		A2	20050427	EP 2003-784152	20030731
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2006500962		T2	20060112	JP 2005-506112	20030731
NO 2005000421		A	20050330	NO 2005-421	20050125
US 2006051379		A1	20060309	US 2005-523044	20050714
PRIORITY APPLN. INFO.:				GB 2002-18035 A	20020802
				GB 2002-18036 A	20020802
				GB 2002-18037 A	20020802
				GB 2002-18051 A	20020802
				GB 2002-20197 A	20020830
				GB 2002-20199 A	20020830
				GB 2002-25524 A	20021101
				GB 2002-25531 A	20021101
				GB 2002-30164 A	20021224
				GB 2002-30168 A	20021224
				GB 2002-30170 A	20021224
				GB 2003-5028 A	20030305
				WO 2003-EP8568 W	20030731

AB The present invention relates to the field of neisserial vaccine compns., their manufacture, and the use of such compns. in medicine. More particularly it relates to processes of making novel engineered meningococcal strains which are more suitable for the production of neisserial, in particular meningococcal, outer-membrane vesicle (or bleb) vaccines. Advantageous processes and vaccine products are also described based on the use of novel LOS subunit or meningococcal outer-membrane vesicle (or bleb) vaccines which have been rendered safer and/or more effective for use in human subjects. In particular combinations of gene downregulations are described such as PorA & OpA, PorA and OpC, OpA and OpC, and PorA and OpA and OpC; as well as gene upregulations are describe such as NspA, **TbpA** low, **TbpA** high, Hsf, Hap, OMP85, PilQ, NadA, LbpA, and MltA. Alternatively, or in addition, lgtB- is shown to be an optimal mutation for effectively and safely using L3 and/or L2 LOS in Neisseria vaccine compns. Bleb vaccines derived from lgtB- and capsular polysaccharide deficient meningococcal mutants are further described; as are advantageous methods of making bleb prepns. where LOS is to be retained as an important antigen.

L7 ANSWER 6 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN
ED Entered STN: 08 Dec 2003
ACCESSION NUMBER: 2003:955432 HCAPLUS

DOCUMENT NUMBER: 140:40557
TITLE: Salivary **antibodies** directed against outer membrane proteins of **Moraxella** catarrhalis in healthy adults
AUTHOR(S): Meier, Patricia Stutzmann; Heiniger, Nadja; Troller, Rolf; Aebi, Christoph
CORPORATE SOURCE: Institute for Infectious Diseases, University of Bern, Bern, Switz.
SOURCE: Infection and Immunity (2003), 71(12), 6793-6798
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Moraxella** catarrhalis is a major mucosal pathogen of the human respiratory tract, but the mucosal immune response directed against surface components of this organism has not been characterized in detail. The aim of this study was to investigate the salivary IgA response toward outer membrane proteins (OMP) of M. catarrhalis in healthy adults, the group of individuals least likely to be colonized and thus most likely to display mucosal immunity. Unstimulated saliva samples collected from 14 healthy adult volunteers were subjected to IgA immunoblot anal. with OMP prepns. of M. catarrhalis strain O35E. Immunoblot anal. revealed a consistent pattern of IgA reactivity, with the appearance of five major bands located at >250, 200, 120, 80, and 60 kDa. Eleven (79%) of 14 saliva samples elicited reactivity to all five bands. Immunoblot anal. with a set of isogenic knockout mutants lacking the expression of individual OMP was used to determine the identities of OMP giving rise to IgA bands. Human saliva was shown consistently to exhibit IgA-binding activity for oligomeric UspA2 (>250 kDa), hemagglutinin (200 kDa), monomeric UspA1 (120 kDa), **transferrin-binding protein B** (**TbpB**), monomeric UspA2, CopB, and presumably OMP CD. **TbpB**, oligomeric UspA2, and CopB formed a cluster of bands at about 80 kDa. These data indicate that the human salivary IgA response is directed consistently against a small number of major OMP, some of which are presently considered vaccine candidates. The functional properties of these mucosal **antibodies** remain to be elucidated.

REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 7 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN
ED Entered STN: 02 Aug 2002
ACCESSION NUMBER: 2002:571692 HCAPLUS
DOCUMENT NUMBER: 137:336467
TITLE: **Antibodies** to iron regulated proteins of meningococci in blood sera of healthy persons of different age groups
AUTHOR(S): Gamzulina, L. N.; Filatova, T. N.
CORPORATE SOURCE: NII Vaktsin Syvorotok im. I. I. Mechnikova, Moscow, Russia
SOURCE: Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii (2002), (2), 37-41
CODEN: ZMEIAV; ISSN: 0372-9311
PUBLISHER: S-info
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB One hundred and twenty individual sera obtained from healthy persons of different age groups were studied for the presence of

antibodies to meningococcal iron-regulated proteins (IRP). The study revealed that occurrence of such **antibodies** in sera was IRP nature- and age-dependent. **Antibodies** to the former IRP were detected in >50% and **antibodies** to the latter IRP, in >90% of sera. This was probably due to the presence of epitopes common with those in protein antigens of some other microorganisms, such as **Moraxella** catarrhalis and Haemophilus influenzae. The occurrence of **antibodies** to periplasmic IRP with 34 kDa (FbpA) in blood sera varied within the range of 5-30%. At the same time the occurrence of **antibodies** to this protein in the sera under study was age-dependent: children up to 5 yr exhibited the minimal occurrence (about 5%), while in adults it reached 30%.

L7 ANSWER 8 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN
ED Entered STN: 28 Mar 2002
ACCESSION NUMBER: 2002:237317 HCAPLUS
DOCUMENT NUMBER: 136:261813
TITLE: Transferrin receptor-encoding genes from Haemophilus influenzae strains and their uses for diagnostics and medical treatment
INVENTOR(S): Loosmore, Sheena M.; Harkness, Robin E.; Schryvers, Anthony B.; Chong, Pele; Gray-Owen, Scott; Yang, Yan-ping; Murdin, Andrew D.; Klein, Michel H.
PATENT ASSIGNEE(S): Aventis Pasteur Limited, Can.
SOURCE: U.S., 280 pp., Cont.-in-part of Ser. No. US 1995-483577, filed on 7 Jun 1995, now CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6361779	B1	20020326	US 1996-649518	19960517
US 5922562	A	19990713	US 1994-337483	19941108
US 6015688	A	20000118	US 1995-483577	19950607
CA 2223503	AA	19961219	CA 1996-2223503	19960607
WO 9640929	A2	19961219	WO 1996-CA399	19960607
WO 9640929	A3	19970306		
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN				
AU 9661177	A1	19961230	AU 1996-61177	19960607
AU 716506	B2	20000224		
EP 833920	A2	19980408	EP 1996-918543	19960607
EP 833920	B1	20040818		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 11506335	T2	19990608	JP 1997-500057	19960607
JP 3516688	B2	20040405		
BR 9608482	A	20010731	BR 1996-8482	19960607
AT 274059	E	20040915	AT 1996-918543	19960607
US 2003088086	A1	20030508	US 2002-43344	20020114
PRIORITY APPLN. INFO.:			US 1993-148968	B2 19931108

US 1993-175116	B2	19931229
US 1994-337483	A2	19941108
US 1995-483577	A2	19950607
US 1996-649518	A	19960517
WO 1996-CA399	W	19960607

AB Purified and isolated genes are provided which encodes transferrin receptor proteins **Tbp1** and/or **Tbp2** of Haemophilus influenzae type b strains DL63, Eagan, MinnA, PAK12085, and SB33 and the non-typeable strains SB12, SB29, SB30, and SB32. The nucleic acid sequence may be used to produce peptides free of contaminants derived from bacteria normally containing the **Tbp1** or **Tbp2** proteins for purposes of diagnostics and medical treatment. Furthermore, the nucleic acid mol. may be used in the diagnosis of infection. Also provided are recombinant **Tbp1** or **Tbp2** and methods for purification of the same. Live vectors expressing epitopes of transferrin receptor protein for vaccination are provided. Thus, poliovirus vectors incorporating the H. influenzae strain DL63 **Tbp2** are neutralized by guinea-pig antisera raised against peptide LEGGFYGP, indicating that the viruses express this sequence in an antigenically recognizable form. Since H. influenzae **Tbp2** is produced in low amts by Escherichia coli, the Eagan strain **Tbp2** gene was truncated from its 3'-end using an Erase-a-base kit to produce a number of truncated analogs of **Tbp2.** The yield of Eagan rTbp2 is significantly increased by truncation of the C-terminal region of the protein. The infant rat model of bacteremia confirms the protective ability of anti-(truncated analogs of transferrin receptor protein **Tbp2**) **antibodies** even after removal of up to half of the **Tbp2** sequence.

REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 9 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN
ED Entered STN: 10 Jan 2001
ACCESSION NUMBER: 2001:23521 HCAPLUS
DOCUMENT NUMBER: 135:194002
TITLE: Vaccines for **Moraxella** catarrhalis
AUTHOR(S): McMichael, J. C.
CORPORATE SOURCE: Wyeth-Lederle Vaccines, West Henrietta, NY, 14586-9728, USA
SOURCE: Vaccine (2000), 19(Suppl. 1), S101-S107
CODEN: VACCDE; ISSN: 0264-410X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review with 53 refs. Vaccine development for M. catarrhalis is in the antigen identification stage. M. catarrhalis does not appear to synthesize secreted antigens such as exotoxins, nor does it appear to possess a carbohydrate capsule. Modified forms of these antigens are usually good vaccine components. There is some interest in whole bacterial cells and membrane fractions, but the search has largely focused on purified outer surface antigens. All of the present antigens have been selected based on the response seen in animals,

although the **antibody** response seen in people exposed to the bacterium provides some guidance. The **antibody** response provides information related to the cross-strain preservation of epitopes and whether they are surface exposed. Antigens that elicit **antibodies** that have complement dependent bactericidal capacity, opsonophagocytic activity or interfere with one of the antigen's known functions such as adhesion or nutrient acquisition are particularly valued. In addition to examining the **antibody** response, some antigens have been evaluated in a murine pulmonary clearance model. Using these assays and model, several vaccine candidates have been identified. The antigens may be roughly classified by the function they serve the bacterium. One set appears to promote adhesion to host tissues and includes the hemagglutinins, ubiquitous surface protein A1 (UspA1), and possibly the CD protein. A second set is involved in nutrient acquisition. This set includes the lactoferrin binding protein A (LbpA) and lactoferrin binding protein B (LbpB), the **transferrin binding protein A (TbpA)** and **transferrin binding protein B (TbpB)**, the CD and E porins, and the catarrhalis outer membrane protein B (CopB). A third set is comprised of antigens involved in virulence and it includes lipooligosaccharide (LOS) and the ubiquitous surface protein A2 (UspA2). Antigens of unknown function, such as the 200 K protein, may also be vaccine candidates.

REFERENCE COUNT: 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 10 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN
ED Entered STN: 15 Oct 1999
ACCESSION NUMBER: 1999:657159 HCAPLUS
DOCUMENT NUMBER: 132:136143
TITLE: Evaluation of **a** 74-kDa **transferrin-binding protein** from **Moraxella** (**Branhamella**) catarrhalis as a vaccine candidate
AUTHOR(S): Chen, Dexiang; McMichael, John C.; VanDerMeid, Karl R.; Masi, Amy W.; Bortell, Eric; Caplan, Jeffrey D.; Chakravarti, Deb N.; Barniak, Vicki L.
CORPORATE SOURCE: Wyeth-Lederle Vaccines, New York, NY, 14586-9728, USA
SOURCE: Vaccine (1999), 18(1-2), 109-118
CODEN: VACCDE; ISSN: 0264-410X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB An outer membrane protein from M. catarrhalis with a mass of 74-kDa was isolated and evaluated as a vaccine candidate. The 74-kDa protein binds transferrin, and appears to be related to the other proteins from the organism that are reported to bind transferrin. The 74-kDa protein possessed conserved epitopes exposed on the bacterial surface. This is based on the reactivity with whole bacterial cells as well as complement dependent bactericidal activity of sera from mice immunized with the isolated proteins from the O35E and TTA24 isolates. However, there was divergence in the degree of **antibody** cross-reactivity with the protein from one strain to another. This serotypic divergence was reflected in both the complement-dependent bactericidal activities of the **antibodies** elicited in mice and the capacity of immune mice to clear the bacteria in a murine

pulmonary model. **Antibodies** affinity purified from human plasma lacked bactericidal activity even though they were reactive with all the tested isolates. The 74-kDa protein appears to be a good vaccine candidate, but more studies are needed to understand its antigenic variability and whether **antibodies** toward it are protective.

REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 11 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN
ED Entered STN: 06 Aug 1999
ACCESSION NUMBER: 1999:487519 HCAPLUS
DOCUMENT NUMBER: 131:120851
TITLE: Nonrecombinant subunit vaccine
INVENTOR(S): Gerlach, Gerald-F.; Goethe, Ralph
PATENT ASSIGNEE(S): Germany
SOURCE: Ger. Offen., 22 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19753176	A1	19990729	DE 1997-19753176	19971120
DE 19753176	C2	20000427		
PRIORITY APPLN. INFO.:			DE 1997-19753176	19971120

AB The title bacterial vaccines are obtained by (1) cultivation of (preferably gram-neg.) pathogenic bacteria, preferably under mineral or nutrient deficiency stress or heat stress, and (2) enrichment of protective antigens from the bacteria by use of detergents, especially steroidal detergents such as cholic acid. This procedure exts. various protective antigens (especially lipoproteins) from the outer membrane without lysing the bacteria and thus without causing release of extraneous proteins. The subunit vaccine can be used as a marker vaccine for differentiation of vaccinated from infected subjects by ELISA. Thus, Actinobacillus pleuropneumoniae 811/051 (serotype 9) was cultivated in PPLO medium + Iso Vitale X at 37° under Fe deficiency conditions (100 μM 2,2'-dipyridyl), centrifuged, and resuspended in distilled water, and **transferrin-binding protein A** was extracted from the outer membrane with 0.075% Na deoxycholate. This extract and a similar extract from serotype 2 were combined 1:2, diluted 1:10, and mixed with HCHO 0.05 and Emulsigen Plus 20% for use as a vaccine in swine.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 12 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN
ED Entered STN: 06 Aug 1999
ACCESSION NUMBER: 1999:486606 HCAPLUS
DOCUMENT NUMBER: 131:256042
TITLE: Analysis of the immunological responses to transferrin and lactoferrin receptor proteins from **Moraxella** catarrhalis
AUTHOR(S): Yu, Rong-Hua; Bonnah, Robert A.; Ainsworth, Samuel; Schryvers, Anthony B.

CORPORATE SOURCE: Department of Microbiology and Infectious Diseases, University of Calgary, Calgary, AB, T2N 4N1, Can.
SOURCE: Infection and Immunity (1999), 67(8), 3793-3799
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Moraxella** catarrhalis expresses surface receptor proteins that specifically bind host transferrin (Tf) and lactoferrin (Lf) in the first step of the iron acquisition pathway. Acute- and convalescent-phase antisera from a series of patients with M. catarrhalis pulmonary infections were tested against Tf and Lf receptor proteins purified from the corresponding isolates. After the purified proteins had been separated by SDS-PAGE and Western blotting, the authors observed strong reactivity against Tf-binding protein B (**TbpB**; also called OMP1) and Lf-binding protein B (LbpB) but little or no reactivity against Tf-binding protein A (**TbpA**) or Lf-binding protein A (LbpA), using the convalescent-phase antisera. Considerable antigenic heterogeneity was observed when **TbpBs** and LbpBs isolated from different strains were tested with the convalescent-phase antisera. Comparison to the reactivity against electroblotted total cellular proteins revealed that the immune response against LbpB and **TbpB** constitutes a significant portion of the total detectable immune response to M. catarrhalis proteins. Prepns. of affinity-isolated **TbpA** and LbpA reacted with convalescent-phase antisera in a solid-phase binding assay, but blocking with soluble **TbpB**, soluble LbpB, or exts. from an LbpA- mutant demonstrated that this reactivity was attributed to contaminants in the **TbpA** and LbpA prepns. These studies demonstrate the immunogenicity of M. catarrhalis **TbpB** and LbpB in humans and support their potential as vaccine candidates.

REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 13 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN
ED Entered STN: 09 Feb 1999
ACCESSION NUMBER: 1999:83288 HCAPLUS
DOCUMENT NUMBER: 130:280494
TITLE: Use of an isogenic mutant constructed in **Moraxella** catarrhalis to identify a protective epitope of outer membrane protein B1 defined by monoclonal **antibody** 11C6
AUTHOR(S): Luke, Nicole R.; Russo, Thomas A.; Luther, Neal; Campagnari, Anthony A.
CORPORATE SOURCE: Department of Microbiology, Center for Microbial Pathogenesis, State University of New York at Buffalo, Buffalo, NY, 14214, USA
SOURCE: Infection and Immunity (1999), 67(2), 681-687
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Moraxella** catarrhalis-induced otitis media continues to be a significant cause of infection in young children, prompting increased efforts at identifying effective vaccine antigens. The authors have previously demonstrated that M. catarrhalis expresses specific outer membrane proteins (OMPs) in response to iron limitation and that this organism can utilize transferrin and lactoferrin for in vitro growth.

One of these proteins, which binds human transferrin, is OMP B1. As the human host presents a naturally iron-limited environment, proteins, like OMP B1, which are expressed in response to this nutritional stress are potential vaccine antigens. In this study, the authors have developed monoclonal **antibody** (**MAb**) 11C6, which reacts to a surface-exposed epitope of OMP B1 expressed by M. catarrhalis 7169. This **antibody** was used to clone ompB1, and sequence anal. suggested that OMP B1 is the M. catarrhalis homolog to the **transferrin binding protein B** described for pathogenic Neisseriaceae, Haemophilus influenzae, Actinobacillus pleuropneumoniae, and M. catarrhalis. Expression of recombinant OMP B1 on the surface of Escherichia coli confers transferrin binding activity, confirming that this protein is likely involved in iron acquisition. In addition, ompB1 was used to construct an isogenic mutant in M. catarrhalis 7169. This mutant, termed 7169b12, was used as the control in bactericidal assays designed to determine if OMP B1 elicits protective **antibodies.** In the presence of **MAb** 11C6 and human complement, wild-type 7169 demonstrated a 99% decline in viability, whereas the ompB1 isogenic mutant was resistant to this bactericidal activity. Further anal. with **MAb** 11C6 revealed the presence of this OMP B1 epitope on 31% of the clin. isolates tested. These data suggest that OMP B1 is a potential vaccine antigen against M. catarrhalis infections.

REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 14 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN
ED Entered STN: 10 Sep 1998
ACCESSION NUMBER: 1998:574816 HCAPLUS
DOCUMENT NUMBER: 129:313152
TITLE: The **transferrin binding protein B** of **Moraxella** catarrhalis elicits bactericidal **antibodies** and is a potential vaccine antigen
AUTHOR(S): Myers, Lisa E.; Yang, Yan-Ping; Du, Run-Pan; Wang, Qijun; Harkness, Robin E.; Schryvers, Anthony B.; Klein, Michel H.; Loosmore, Sheena M.
CORPORATE SOURCE: Pasteur Merieux Connaught Canada Research, North York, ON, M2R 3T4, Can.
SOURCE: Infection and Immunity (1998), 66(9), 4183-4192
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The transferrin binding protein genes (**tbpA** and **tbpB**) from two strains of **Moraxella** catarrhalis have been cloned and sequenced. The genomic organization of the M. catarrhalis transferrin binding protein genes is unique among known bacteria in that **tbpA** precedes **tbpB** and there is a third gene located between them. The deduced sequences of the M. catarrhalis **TbpA** proteins from two strains were 98% identical, while those of the **TbpB** proteins from the same strains were 63% identical and 70% similar. The third gene, tentatively called orf3, encodes a protein of approx. 58 kDa that is 98% identical between the two strains. The **tbpB** genes from four addnl. strains of M. catarrhalis were cloned and sequenced, and two potential families of **TbpB** proteins were identified based on sequence similarities.

Recombinant **TbpA** (rTbpA), rTbpB, and rORF3 proteins were expressed in Escherichia coli and purified. RTbpB was shown to retain its ability to bind human transferrin after transfer to a membrane, but neither rTbpA nor rORF3 did. Monospecific anti-rTbpA and anti-rTbpB **antibodies** were generated and used for immunoblot anal., which demonstrated that epitopes of M. catarrhalis **TbpA** and **TbpB** were antigenically conserved and that there was constitutive expression of the tbp genes. In the absence of an appropriate animal model, anti-rTbpA and anti-rTbpB **antibodies** were tested for their bactericidal activities. The anti-rTbpA antiserum was not bactericidal, but anti-rTbpB antisera were found to kill heterologous strains within the same family. Thus, if bactericidal ability is clin. relevant, a vaccine comprising multiple rTbpB antigens may protect against M. catarrhalis disease.

IT **196624-01-8 196624-05-2 196624-08-5**
196624-11-0 214688-88-7 214688-91-2
214688-92-3 214688-93-4
RL: PRP (Properties)
(amino acid sequence; sequences of transferrin binding protein genes **tbpA** and **tbpB** of **Moraxella** catarrhalis, expression in Escherichia coli, bactericidal **antibody** activities against recombinant **TbpB** and use as potential vaccine antigen)

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 15 OF 15 HCAPLUS COPYRIGHT 2006 ACS on STN
ED Entered STN: 16 Apr 1998
ACCESSION NUMBER: 1998:213232 HCAPLUS
DOCUMENT NUMBER: 128:306022
TITLE: Biochemical and immunological properties of lactoferrin binding proteins from **Moraxella (Branhamella)** catarrhalis
AUTHOR(S): Bonnah, Robert A.; Yu, Rong-Hua; Wong, Henry; Schryvers, Anthony B.
CORPORATE SOURCE: Department of Microbiology and Infectious Diseases, University of Calgary, Calgary, AB, T2N 4N1, Can.
SOURCE: Microbial Pathogenesis (1998), 24(2), 89-100
CODEN: MIPAEV; ISSN: 0882-4010
PUBLISHER: Academic Press Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The Neisseriaceae can acquire iron (Fe) from lactoferrin (Lf) using host-Lf receptors on the bacterial surface. The binding proteins that are proposed to constitute the receptor have been identified by isolation with immobilized Lf. Using CopB-specific monoclonal **antibodies** and isogenic CopB mutants, we demonstrate that the 84-kDa protein isolated with immobilized human Lf from **Moraxella** catarrhalis using low stringency conditions is CopB, an 84 kDa membrane-spanning protein with similarities to other TonB-dependent outer membrane proteins. Affinity isolation of Lf receptors from a variety of M. catarrhalis strains using high stringency conditions revealed a 95 kDa protein migrating slightly faster than LbpA on SDS-PAGE in some strains. Convalescent human antisera from patients infected with M. catarrhalis reacted specifically with this protein, but not LbpA. Proteolysis expts. demonstrated that, unlike LbpA, it was rapidly degraded. The 95 kDa

protein, but not LbpA, binds labeled Lf after SDS-PAGE and electroblotting, suggesting the 95 kDa protein is LbpB, the homolog of **TbpB**. This protein comigrates with LbpA in most strains, which may explain why it had not been previously identified.

REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

FILE 'MEDLINE' ENTERED AT 15:55:49 ON 18 MAY 2006

FILE 'BIOSIS' ENTERED AT 15:55:49 ON 18 MAY 2006

FILE 'EMBASE' ENTERED AT 15:55:49 ON 18 MAY 2006

FILE 'WPIDS' ENTERED AT 15:55:49 ON 18 MAY 2006

FILE 'CONFSCI' ENTERED AT 15:55:49 ON 18 MAY 2006

FILE 'SCISEARCH' ENTERED AT 15:55:49 ON 18 MAY 2006

FILE 'JICST-EPLUS' ENTERED AT 15:55:49 ON 18 MAY 2006

FILE 'JAPIO' ENTERED AT 15:55:49 ON 18 MAY 2006

L8 51 S L7
L9 25 DUP REM L8 (26 DUPLICATES REMOVED)

L9 ANSWER 1 OF 25 MEDLINE on STN DUPLICATE 1
ACCESSION NUMBER: 2005617092 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16299311
TITLE: Antigenic specificity of the mucosal **antibody** response to **Moraxella** catarrhalis in chronic obstructive pulmonary disease.
AUTHOR: Murphy Timothy F; Brauer Aimee L; Aebi Christoph; Sethi Sanjay
CORPORATE SOURCE: VA Western New York Healthcare System, Medical Research 151, 3495 Bailey Avenue, Buffalo, NY 14215, USA.. murphyt@buffalo.edu
CONTRACT NUMBER: AI 28304 (NIAID)
AI 46422 (NIAID)
SOURCE: Infection and immunity, (2005 Dec) Vol. 73, No. 12, pp. 8161-6.
Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200601
ENTRY DATE: Entered STN: 22 Nov 2005
Last Updated on STN: 7 Jan 2006
Entered Medline: 6 Jan 2006
AB **Moraxella** catarrhalis is an important human mucosal pathogen causing otitis media in children and lower respiratory tract infection

in adults with chronic obstructive pulmonary disease (COPD). Little is known about the mucosal **antibody** response to M. catarrhalis in adults with COPD. In this study, 10 pairs of well-characterized sputum supernatant samples from adults with COPD who had acquired and subsequently cleared M. catarrhalis from their respiratory tracts were studied in detail in an effort to begin to elucidate potentially protective immune responses. Flow cytometry analysis was used to study the distribution of immunoglobulin isotypes in paired preacquisition and postclearance sputum samples. The results showed that immunoglobulin A (IgA) is the predominant M. catarrhalis-specific immunoglobulin isotype and that the sputum IgA contains a secretory component, indicating that it is locally produced at the mucosal site. Most patients made new sputum IgA responses to the adhesins UspA1 and Hag, along with the surface protein UspA2. A smaller proportion of patients made new sputum IgA responses to the iron-regulated proteins **TbpB** and CopB and to lipooligosaccharide. These results have important implications in understanding the mucosal immune response to M. catarrhalis in the setting of COPD and in elucidating the elements of a protective immune response.

L9 ANSWER 2 OF 25 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 2005266119 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15908376
TITLE: Identification of surface antigens of **Moraxella** catarrhalis as targets of human serum **antibody** responses in chronic obstructive pulmonary disease.
AUTHOR: Murphy Timothy F; Brauer Aimee L; Aebi Christoph; Sethi Sanjay
CORPORATE SOURCE: VA Western New York Healthcare System, Medical Research 151, 3495 Bailey Avenue, Buffalo, NY 14215, USA.. murphyt@buffalo.edu
CONTRACT NUMBER: AI 28304 (NIAID)
AI 46422 (NIAID)
SOURCE: Infection and immunity, (2005 Jun) Vol. 73, No. 6, pp. 3471-8.
Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200506
ENTRY DATE: Entered STN: 24 May 2005
Last Updated on STN: 16 Jun 2005
Entered Medline: 15 Jun 2005

AB **Moraxella** catarrhalis is an important respiratory tract pathogen, causing otitis media in children and lower respiratory tract infections in adults with chronic obstructive pulmonary disease (COPD). Adults with COPD make **antibody** responses to M. catarrhalis following infection, but little is known about the identity of the antigens to which these **antibodies** are directed. In this study, 12 serum samples obtained from adults with COPD who had cleared M. catarrhalis from the respiratory tract following infection and who had developed new serum immunoglobulin G (IgG) to their infecting strain were subjected to a series of assays to identify the antigens to which potentially protective **antibodies** were directed. Sera were adsorbed with intact bacterial cells, and **antibodies** were eluted from the surfaces of the bacteria. Analysis by flow cytometry established that adsorption and elution effectively detected **antibodies**

specifically directed to surface-exposed epitopes. Immunoblot assays of adsorbed and eluted serum fractions were performed with purified outer membranes and purified lipooligosaccharide of homologous infecting strains and with a series of mutants deficient in expression of individual outer membrane proteins (OMPs). While heterogeneity in **antibody** responses among individuals was observed, five major OMPs, UspA1, UspA2, Hag, **TbpB**, and OMP CD, were identified as targets of **antibodies** to surface epitopes in the majority of adults with COPD who cleared the organism. These results have important implications in understanding human immune responses to M. catarrhalis and in elucidating the elements of a protective immune response.

L9 ANSWER 3 OF 25 EMBASE

ACCESSION NUMBER: 2006012942 EMBASE
TITLE: Vaccine development for non-typeable Haemophilus influenzae and **Moraxella** catarrhalis: Progress and challenges.
AUTHOR: Murphy T.F.
CORPORATE SOURCE: Dr. T.F. Murphy, University at Buffalo, State University of New York, Buffalo VAMC, 3495 Bailey Avenue, Buffalo, NY 14215, United States. murphy@buffalo.edu
SOURCE: Expert Review of Vaccines, (2005) Vol. 4, No. 6, pp. 843-853. .
Refs: 89
ISSN: 1476-0584 CODEN: ERVXAX
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; General Review
FILE SEGMENT: 004 Microbiology
015 Chest Diseases, Thoracic Surgery and Tuberculosis
026 Immunology, Serology and Transplantation
030 Pharmacology
037 Drug Literature Index
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 9 Feb 2006
Last Updated on STN: 9 Feb 2006

AB An urgent need exists for vaccines to prevent infections caused by nontypeable Haemophilus influenzae and **Moraxella** catarrhalls. These bacteria cause otitis media in children, a clinical problem associated with enormous morbidity and cost. H. influenzae and M. catarrhalls also cause lower respiratory tract infections in adults with chronic lung disease. Infections in this clinical setting are associated with disability and death. Recent progress in identifying potential vaccine antigens in both bacteria raises great promise in developing effective vaccines. This paper reviews the key issues in vaccine development for H. influenzae and M. catarrhalis, including areas where progress has been stalled, and proposes areas that deserve investigation in the next 5 years. .COPYRGT. 2005 Future Drugs Ltd.

L9 ANSWER 4 OF 25 WPIDS

ACCESSION NUMBER: 2004-169460 [16] WPIDS
CROSS REFERENCE: 2004-180545 [17]; 2004-180546 [17]; 2004-180668 [17]; 2004-239150 [22]; 2004-239156 [22]
DOC. NO. CPI: C2004-067089
TITLE: New immunogenic composition comprising transferrin

binding protein and Hsf like protein, useful for treating or preventing disease caused by Neisseria meningitidis or N. gonorrheae, **Moraxella** catarrhalis or Hemophilus influenzae.

DERWENT CLASS: B04 D16

INVENTOR(S): BERTHET, F J; BIEMANS, R; DENOEL, P; FERON, C; GORAJ, C; POOLMAN, J; WEYNANTS, V; GORAJ, K

PATENT ASSIGNEE(S): (GLAX) GLAXOSMITHKLINE BIOLOGICALS SA; (GLAX) GLAXOSMITHKLINE BIOLOGICAL SA; (BERT-I) BERTHET F J; (BIEM-I) BIEMANS R; (DENO-I) DENOEL P; (FERO-I) FERON C; (GORA-I) GORAJ C; (POOL-I) POOLMAN J; (WEYN-I) WEYNANTS V

COUNTRY COUNT: 107

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2004014419	A1	20040219	(200416)*	EN	64
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW					
AU 2003253375	A1	20040225	(200456)		
NO 2005000010	A	20050209	(200528)		
EP 1524991	A1	20050427	(200529)	EN	
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR					
NO 2005000421	A	20050330	(200530)		
BR 2003013100	A	20050621	(200542)		
KR 2005028051	A	20050321	(200557)		
TW 2004008406	A	20040601	(200571)		
MX 2005000842	A1	20050501	(200572)		
CN 1671413	A	20050921	(200610)		
CN 1674933	A	20050928	(200610)		
US 2006034854	A1	20060216	(200613)		
JP 2006505628	W	20060216	(200614)		45
CN 1688333	A	20051026	(200618)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2004014419	A1	WO 2003-EP8567	20030731
AU 2003253375	A1	AU 2003-253375	20030731
NO 2005000010	A	WO 2003-EP8567	20030731
		NO 2005-10	20050103
EP 1524991	A1	EP 2003-784151	20030731
		WO 2003-EP8567	20030731
NO 2005000421	A	WO 2003-EP8568	20030731
		NO 2005-421	20050125
BR 2003013100	A	BR 2003-13100	20030731
		WO 2003-EP8567	20030731
KR 2005028051	A	KR 2005-701924	20050202
TW 2004008406	A	TW 2003-121011	20030731
MX 2005000842	A1	WO 2003-EP8567	20030731
		MX 2005-842	20050120
CN 1671413	A	CN 2003-818454	20030731

CN 1674933	A	CN 2003-818648	20030731
US 2006034854	A1	WO 2003-EP8567	20030731
		US 2005-523114	20050802
JP 2006505628	W	WO 2003-EP8567	20030731
		JP 2005-506111	20030731
CN 1688333	A	CN 2003-823703	20030731

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2003253375	A1 Based on	WO 2004014419
EP 1524991	A1 Based on	WO 2004014419
BR 2003013100	A Based on	WO 2004014419
MX 2005000842	A1 Based on	WO 2004014419
JP 2006505628	W Based on	WO 2004014419

PRIORITY APPLN. INFO: GB 2003-5028 20030305; GB 2002-18035 20020802; GB 2002-18036 20020802; GB 2002-18037 20020802; GB 2002-18051 20020802; GB 2002-20197 20020830; GB 2002-20199 20020830; GB 2002-25524 20021101; GB 2002-25531 20021101; GB 2002-30164 20021224; GB 2002-30168 20021224; GB 2002-30170 20021224

AN 2004-169460 [16] WPIDS

CR 2004-180545 [17]; 2004-180546 [17]; 2004-180668 [17]; 2004-239150 [22]; 2004-239156 [22]

AB WO2004014419 A UPAB: 20060315

NOVELTY - A new immunogenic composition comprises an isolated transferrin binding protein (Tbp) or its antigenic fragment and an isolated Hsf like protein or its antigenic from the same or different Gram negative bacteria.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a vaccine comprising the immunogenic composition and an excipient;

(2) a method for treating or preventing Gram negative bacterial disease;

(3) a genetically engineered Gram negative bacterial strain from which the outer membrane vesicles within the immunogenic composition can be derived;

(4) a method of making the immunogenic composition;

(5) a method of making the vaccine;

(6) a method of preparing an immune globulin for treating or preventing Neisserial infection; and

(7) a pharmaceutical preparation comprising monoclonal **antibodies** against **TbpA** and Hsf of Neisseria meningitidis and an excipient.

ACTIVITY - Antibacterial.

No biological data given.

MECHANISM OF ACTION - Vaccine.

USE - The immunogenic composition is useful for treating or preventing infection caused by Neisseria meningitidis serogroup B, Neisseria gonorrheae, **Moraxella** catarrhalis or Haemophilus influenzae (claimed).

Dwg.0/1

L9 ANSWER 5 OF 25 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2004-180545 [17] WPIDS
CROSS REFERENCE: 2004-169460 [16]; 2004-180546 [17]; 2004-180668 [17]; 2004-239150 [22]; 2004-239156 [22]
DOC. NO. CPI: C2004-071430
TITLE: Neisserial bleb preparation derived from a neisserial strain with an L2 LOS immunotype or a neisserial strain with an L3 LOS immunotype, useful for preparing a vaccine against Neisseria meningitis infection.
DERWENT CLASS: B04 D16
INVENTOR(S): BIEMANS, R; DENOEL, P; FERON, C; GORAJ, K; POOLMAN, J; WEYNANTS, V; GORAJ, C
PATENT ASSIGNEE(S): (GLAX) GLAXOSMITHKLINE BIOLOGICALS SA
COUNTRY COUNT: 106
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2004014417	A2	20040219	(200417)*	EN	51
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW					
AU 2003260357	A1	20040225	(200456)		
EP 1524992	A2	20050427	(200529)	EN	
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR					
MX 2005001349	A1	20050501	(200572)		
JP 2006500962	W	20060112	(200604)		42
IN 2005000230	P2	20060224	(200619)	EN	
US 2006051379	A1	20060309	(200622)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2004014417	A2	WO 2003-EP8568	20030731
AU 2003260357	A1	AU 2003-260357	20030731
EP 1524992	A2	EP 2003-784152	20030731
		WO 2003-EP8568	20030731
MX 2005001349	A1	WO 2003-EP8568	20030731
		MX 2005-1349	20050202
JP 2006500962	W	WO 2003-EP8568	20030731
		JP 2005-506112	20030731
IN 2005000230	P2	WO 2003-EP8568	20030731
		IN 2005-KN230	20050221
US 2006051379	A1	WO 2003-EP8568	20030731
		US 2005-523044	20050714

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2003260357	A1 Based on	WO 2004014417

EP 1524992 A2 Based on WO 2004014417
MX 2005001349 A1 Based on WO 2004014417
JP 2006500962 W Based on WO 2004014417

PRIORITY APPLN. INFO: GB 2003-5028 20030305; GB
2002-18035 20020802; GB
2002-18036 20020802; GB
2002-18037 20020802; GB
2002-18051 20020802; GB
2002-20197 20020830; GB
2002-20199 20020830; GB
2002-25524 20021101; GB
2002-25531 20021101; GB
2002-30164 20021224; GB
2002-30168 20021224; GB
2002-30170 20021224

AN 2004-180545 [17] WPIDS
CR 2004-169460 [16]; 2004-180546 [17]; 2004-180668 [17]; 2004-239150 [22]; 2004-239156 [22]
AB WO2004014417 A UPAB: 20060331
NOVELTY - A Neisserial bleb preparation derived from a neisserial strain with an L2 LOS immunotype or a neisserial strain with an L3 LOS immunotype, where the strain is IgtB- or a Neisserial bleb preparation comprising a combination of blebs derived from a neisserial strain with an L2 LOS immunotype and a neisserial strain with an L3 LOS immunotype, optionally where each strain is IgtB-, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a LOS preparation isolated from the Neisserial strains comprising immunotype L2 and/or L3 LOS;

(2) an immunogenic composition or vaccine comprising the Neisserial bleb preparation or the LOS preparation and an excipient;

(3) a process of manufacturing the Neisserial bleb preparation vaccine;

(4) a process of producing an intra-bleb conjugated bleb preparation from a Gram-negative bacterial strain, where in the outer-membrane of which is integrated an outer-membrane protein conjugated to LOS.

ACTIVITY - Antibacterial. No biological data given.

MECHANISM OF ACTION - Vaccine.

USE - The Neisserial bleb preparation is useful for preparing a vaccine against Neisseria meningitis infection.

Dwg.0/6

L9 ANSWER 6 OF 25 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2005-038740 [04] WPIDS
DOC. NO. CPI: C2005-012873
TITLE: Transferrin-binding molecules useful for eliciting **antibodies** to bacterial transferrin binding proteins, which block bacterial transferrin uptake.
DERWENT CLASS: B04 D16
INVENTOR(S): SCHRYVERS, A B
PATENT ASSIGNEE(S): (SCHR-I) SCHRYVERS A B
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 2004258695	A1	20041223	(200504)*		27

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2004258695	A1 Provisional	US 2003-444113P	20030131
		US 2004-769514	20040130

PRIORITY APPLN. INFO: US 2003-444113P 20030131; US 2004-769514 20040130

AN 2005-038740 [04] WPIDS

AB US2004258695 A UPAB: 20050117

NOVELTY - An isolated molecule capable of binding to a region of transferrin that is recognized by a bacterial transferrin-binding protein, and eliciting an **antibody** to the bacterial transferrin-binding protein, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) an isolated peptide comprising a transferrin-binding determinant of a transferrin-binding protein of a bacterium;

(2) a vaccine comprising the molecule or the peptide above;

(3) an isolated **antibody** or its fragment, where the **antibody** recognizes multiple different transferrin-binding proteins;

(4) identifying a transferrin-binding determinant in a transferrin-binding protein; and

(5) preventing or treating a bacterial infection in a mammal by administering the molecule, peptide or an **antibody** that recognizes the molecule or peptide.

ACTIVITY - Antibacterial; Antiinflammatory; Auditory.

No biological data given.

MECHANISM OF ACTION - Vaccine.

USE - The isolated molecule, which is a transferrin-binding molecule is useful for preventing or treating bacterial infections, e.g. bacterial meningitis or otitis media.

Dwg.0/0

L9 ANSWER 7 OF 25 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 2004:1068913 SCISEARCH

THE GENUINE ARTICLE: 875YD

TITLE: Isolation and expression of the genes coding for the membrane bound transglycosylase B (MltB) and the **transferrin binding protein B (TbpB)** of the salmon pathogen Piscirickettsia salmonis

AUTHOR: Wilhelm V; Morales C; Martinez R; Rosemblatt M; Burzio L O; Valenzuela P D T (Reprint)

CORPORATE SOURCE: Pontificia Univ Catolica Chile, Univ Andres Bello, Fdn Ciencia Vida, Av Zanartu 1482, Santiago, Chile (Reprint); Pontificia Univ Catolica Chile, Univ Andres Bello, Fdn Ciencia Vida, Santiago, Chile; Inst Milenio Biol Fundamental & Aplicada, Santiago, Chile pvalenzu@bionova.cl

COUNTRY OF AUTHOR: Chile

SOURCE: BIOLOGICAL RESEARCH, (2004) Vol. 37, No. 4, Supp. [A], pp. 783-793. ISSN: 0716-9760.

PUBLISHER: SOCIEDAD BIOLGIA CHILE, CASILLA 16164, SANTIAGO 9, CHILE.

DOCUMENT TYPE: Article; Journal

LANGUAGE: English
REFERENCE COUNT: 34
ENTRY DATE: Entered STN: 6 Jan 2005
Last Updated on STN: 15 Jul 2005
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB We have isolated and sequenced the genes encoding the membrane bound transglycosylase B (MltB) and the transferring binding protein B (**TbpB**) of the salmon pathogen Piscirickettsia salmonis. The results of the sequence revealed two open reading frames that encode proteins with calculated molecular weights of 38,830 and 85,140. The deduced aminoacid sequences of both proteins show a significant homology to the respective protein from phylogenetically related microorganisms. Partial sequences coding the amino and carboxyl regions of MltB and a sequence of 761 base pairs encoding the amino region of **TbpB** have been expressed in E. coli. The strong Immoral response elicited by these proteins in mouse confirmed the immunogenic properties of the recombinant proteins. A similar response was elicited by both proteins when injected intraperitoneally in Atlantic salmon. The present data indicates that these proteins are good candidates to be used in formulations to study the protective immunity of salmon to infection by P. salmonis.

L9 ANSWER 8 OF 25 MEDLINE on STN DUPLICATE 3
ACCESSION NUMBER: 2003557469 MEDLINE
DOCUMENT NUMBER: PubMed ID: 14638765
TITLE: Salivary **antibodies** directed against outer membrane proteins of **Moraxella** catarrhalis in healthy adults.
AUTHOR: Stutzmann Meier Patricia; Heiniger Nadja; Troller Rolf; Aebi Christoph
CORPORATE SOURCE: Institute for Infectious Diseases. Department of Pediatrics, University of Bern, Bern, Switzerland.
SOURCE: Infection and immunity, (2003 Dec) Vol. 71, No. 12, pp. 6793-8.
Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200401
ENTRY DATE: Entered STN: 26 Nov 2003
Last Updated on STN: 13 Jan 2004
Entered Medline: 12 Jan 2004

AB **Moraxella** catarrhalis is a major mucosal pathogen of the human respiratory tract, but the mucosal immune response directed against surface components of this organism has not been characterized in detail. The aim of this study was to investigate the salivary immunoglobulin A (IgA) response toward outer membrane proteins (OMP) of M. catarrhalis in healthy adults, the group of individuals least likely to be colonized and thus most likely to display mucosal immunity. Unstimulated saliva samples collected from 14 healthy adult volunteers were subjected to IgA immunoblot analysis with OMP preparations of M. catarrhalis strain O35E. Immunoblot analysis revealed a consistent pattern of IgA reactivity, with the appearance of five major bands located at >250, 200, 120, 80, and 60 kDa. Eleven (79%) of 14 saliva samples elicited reactivity to all five bands. Immunoblot analysis with a set of isogenic knockout mutants lacking the expression of individual OMP was used to determine the identities of OMP giving rise to IgA bands. Human saliva was shown consistently to exhibit IgA-binding activity for oligomeric UspA2 (>250 kDa),

hemagglutinin (200 kDa), monomeric UspA1 (120 kDa), **transferrin-binding protein B** (**TbpB**), monomeric UspA2, CopB, and presumably OMP CD. **TbpB**, oligomeric UspA2, and CopB formed a cluster of bands at about 80 kDa. These data indicate that the human salivary IgA response is directed consistently against a small number of major OMP, some of which are presently considered vaccine candidates. The functional properties of these mucosal **antibodies** remain to be elucidated.

L9 ANSWER 9 OF 25 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN

ACCESSION NUMBER: 2003387655 EMBASE
TITLE: Vaccines for **Moraxella** catarrhalis and non-typeable Haemophilus influenzae.
AUTHOR: McMichael J.C.; Green B.A.
CORPORATE SOURCE: B.A. Green, Wyeth Vaccines, 401 N Middleton Road, Pearl River, NY 10965, United States. greenba@wyeth.com
SOURCE: Current Opinion in Investigational Drugs, (1 Aug 2003) Vol. 4, No. 8, pp. 953-958. .
Refs: 65
ISSN: 1472-4472 CODEN: CIDREE
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; General Review
FILE SEGMENT: 037 Drug Literature Index
030 Pharmacology
004 Microbiology
029 Clinical Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 16 Oct 2003
Last Updated on STN: 16 Oct 2003

AB The development of vaccines against non-typeable Haemophilus influenzae and **Moraxella** catarrhalis represents a difficult challenge. Both bacteria are mucosal surface pathogens and protection may require a mucosal immune response. In addition, the surface antigens of non-typeable Haemophilus influenzae are hypervariable and animal models of infection with these bacteria may not be predictive of human efficacy. Vaccine development has focused on conserved surface exposed antigens, including integral outer membrane proteins, pili and other attachment factors, membrane-associated proteins, and lipooligosaccharide-protein conjugates. Several vaccine candidates are described that are antigenically conserved among strains, elicit biologically functional **antibodies**, and have efficacy in animal models. .COPYRGT. Current Drugs.

L9 ANSWER 10 OF 25 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 2003:284915 SCISEARCH
THE GENUINE ARTICLE: 660GH
TITLE: Mucosal immune response to specific outer membrane proteins of **Moraxella** catarrhalis in young children
AUTHOR: Meier P S (Reprint); Freiburghaus S; Martin A; Heiniger N; Troller R; Aebi C
CORPORATE SOURCE: Univ Bern, Inst Infect Dis, Bern, Switzerland (Reprint); Univ Bern, Dept Pediat, Bern, Switzerland
COUNTRY OF AUTHOR: Switzerland
SOURCE: PEDIATRIC INFECTIOUS DISEASE JOURNAL, (MAR 2003) Vol. 22, No. 3, pp. 256-262.

ISSN: 0891-3668.
PUBLISHER: LIPPINCOTT WILLIAMS & WILKINS, 530 WALNUT ST, PHILADELPHIA, PA 19106-3621 USA.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 46
ENTRY DATE: Entered STN: 11 Apr 2003
Last Updated on STN: 11 Apr 2003

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Background. **Moraxella** catarrhalis is an important cause of otitis media. A number of candidate antigens for a future infant otitis media vaccine have been identified, but their mucosal immunogenicity induced by nasopharyngeal M. catarrhalis colonization has not been characterized. The aim of this study was to determine the salivary IgA response to M. catarrhalis outer membrane proteins (OMP) in young children.

Methods. Children ages 1 to 24 months evaluated for acute respiratory tract infection were prospectively enrolled. M. catarrhalis nasopharyngeal colonization was determined by (1) selective culture and (2) detection by reverse transcription-PCR of messenger RNA specific for the OMP UspA1 and UspA2. Salivary IgA responses were detected by immunoblot analysis of M. catarrhalis OMP. Isogenic knockout mutants for UspA1, UspA2, hemagglutinin (Hag), **transferrin-binding protein B** (**TbpB**) and CopB were constructed for identification of specific target OMP.

Results. Sixty-six patients were studied. The rates of M, catarrhalis colonization by culture, reverse transciription-PCR for uspA1 messenger RNA and uspA2 mRNA were 40,94 and 58%, respectively. Anti-M, catarrhalis salivary IgA was detected in 62 patients (94%). IgA directed against a > 250-kDa antigen (assigned to UspA1/UspA2 by mutant analysis) and a 200-kDa antigen (Hag) were detected in 65 and 70% of patients, respectively. Bands at 80 to 85 kDa (82%) consisted of IgA directed against monomeric UspA2, **TbpB**, and CopB.

Conclusions. M, catarrhalis colonization occurring in early infancy is associated with a consistent mucosal immune response directed against the UspA proteins, Hag and other OMP. The data suggest that several M. catarrhalis OMP are immunogens of the nasopharyngeal mucosal immune system of infants.

L9 ANSWER 11 OF 25 MEDLINE on STN DUPLICATE 4

ACCESSION NUMBER: 2002302439 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12043151

TITLE: [**Antibodies** to iron-regulated proteins of meningococci in blood sera of healthy persons of different age groups].
Antitela k zhelezoreguliruemym belkam meningokokkov v syvorotkakh krovi zdorovykh lits raznykh vozrastnykh grupp.

AUTHOR: Gamzulina L N; Filatova T N
CORPORATE SOURCE: Mechnikov Research Institute for Vaccines and Sera, Moscow, Russia.

SOURCE: Zhurnal mikrobiologii, epidemiologii, i immunobiologii, (2002 Mar-Apr) No. 2, pp. 37-41.
Journal code: 0415217. ISSN: 0372-9311.
PUB. COUNTRY: Russia: Russian Federation
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Russian
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200206

ENTRY DATE: Entered STN: 5 Jun 2002
Last Updated on STN: 18 Dec 2002
Entered Medline: 27 Jun 2002

AB One hundred and twenty individual sera obtained from healthy persons of different age groups were studied for the presence of **antibodies** to meningococcal iron-regulated proteins (IRP). The study revealed that occurrence of such **antibodies** in sera under study was IRP nature- and age-dependent. **Antibodies** to two IRP were found to occur most frequently: 85 kD (**TbpB**) and 72 kD (FrpB). **Antibodies** to the former IRP were detected in more than 50% and **antibodies** to the latter IRP, in more than 90% of sera. This was probably due to the presence of epitopes common with those in protein antigens of some other microorganisms, such as **Moraxella** catarrhalis and Haemophilus influenzae. The occurrence of **antibodies** to periplasmatic IRP with 34 kD (FbpA) in blood sera varied within the range of 5 to 30%. At the same time the occurrence of **antibodies** to this protein in the sera under study was age-depended: children until five years exhibited the minimal occurrence (about 5%), while in adults it reached 30%.

L9 ANSWER 12 OF 25 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 2002:176653 BIOSIS
DOCUMENT NUMBER: PREV200200176653
TITLE: Characterization of bactericidal **antibodies** to **Tbp2** (OMP B1) of **Moraxella** catarrhalis.
AUTHOR(S): Sethi, S. [Reprint author]; Walters, A. [Reprint author]; Veeramachaneni, S. B. [Reprint author]; Murphy, T. F. [Reprint author]
CORPORATE SOURCE: State University of New York at Buffalo, Buffalo, NY, USA
SOURCE: Abstracts of the General Meeting of the American Society for Microbiology, (2001) Vol. 101, pp. 125-126. print.
Meeting Info.: 101st General Meeting of the American Society for Microbiology. Orlando, FL, USA. May 20-24, 2001. American Society for Microbiology.
ISSN: 1060-2011.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 6 Mar 2002
Last Updated on STN: 6 Mar 2002

AB **Tbp2** (OMP B1), a transferrin binding outer membrane protein of M. catarrhalis is a major target of human IgG **antibodies.** Determining potentially protective epitopes on this OMP is therefore important, **tbp2** of M. catarrhalis strain 10P11B1 was cloned into prSET B and expressed in E. coli BL21(DE3)pLysS, as a 6X Histidine tagged protein. Two rabbit sera obtained after immunization with recombinant **Tbp2** were tested in immunoblots and bactericidal assays. Rabbit **antibodies** directed at **Tbp2** were isolated by affinity purification. Specificity of the bactericidal activity for **Tbp2** was determined with inhibition assays. Strain specificity of bactericidal activity of rabbit antisera against 15 different strains of M. catarrhalis was determined. Both rabbits developed high titer **antibodies** to **Tbp2** which were bactericidal to the parent strain 10P11B1 at a 1:1000 dilution. This bactericidal activity was inhibited by soluble

recombinant **Tbp2** and not by recombinant OMP CD, another outer membrane protein of M. catarrhalis. Seven of 14 (50%) additional strains of M. catarrhalis were killed in vitro by rabbit serum at a 1:100 dilution. **Tbp2** of M. catarrhalis has epitopes on its surface that bind bactericidal **antibodies.** There is moderate heterogeneity of these epitopes among strains.

L9 ANSWER 13 OF 25 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2000-181144 [16] WPIDS
CROSS REFERENCE: 1995-194089 [25]; 1997-052329 [05]; 1998-100410 [09]; 1999-404437 [34]; 1999-404459 [34]; 1999-404487 [34]; 2000-096387 [08]
DOC. NO. CPI: C2000-056516
TITLE: New nucleic acid encoding truncated transferrin receptor, useful for diagnosis, treatment and prevention of bacterial infections, particularly by Haemophilus.
DERWENT CLASS: B04 D16
INVENTOR(S): CHONG, P; GRAY-OWEN, S; HARKNESS, R; KLEIN, M; LOOSMORE, S; MURDIN, A; SCHRYVERS, A; YANG, Y
PATENT ASSIGNEE(S): (CONN-N) CONNAUGHT LAB LTD
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 6015688	A	20000118	(200016)*		281

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
US 6015688	A	CIP of	US 1993-148968	19931108
		CIP of	US 1993-175116	19931229
		Cont of	US 1994-337483	19941108
			US 1995-483577	19950607

PRIORITY APPLN. INFO: US 1994-337483 19941108; US 1993-148968 19931108; US 1993-175116 19931229; US 1995-483577 19950607
AN 2000-181144 [16] WPIDS
CR 1995-194089 [25]; 1997-052329 [05]; 1998-100410 [09]; 1999-404437 [34]; 1999-404459 [34]; 1999-404487 [34]; 2000-096387 [08]
AB US 6015688 A UPAB: 20000925
NOVELTY - Isolated and purified nucleic acid (I) encoding an immunogenic, C-terminally truncated analog of one of the transferrin receptor proteins **Tbp1** or **Tbp2** of Haemophilus, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) isolated and purified nucleic acid (Ia) encoding only a C-terminally truncated **Tbp2** protein (II) of Haemophilus;

(2) expression vector for expressing (II), containing (Ia) and expression control elements; and

(3) recombinant production of (II) by expressing the vector of (2) in a host cell.

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - Vaccine.

USE - (I) are used for recombinant production of truncated Tbp; as probes and primers for detecting, and diagnosing infection by, Haemophilus, also for isolating similar sequences from other bacteria; as immunogens for vaccinating against infections caused by bacteria that produce transferrin receptors, e.g. Haemophilus, Neisseria or **Branhamella**. The truncated proteins are useful as immunogens (as above); for diagnosing infection (as antigens in immunoassays) and for raising **antibodies**, used for diagnosis of infections or for passive immunization.
Dwg.0/32

L9 ANSWER 14 OF 25 MEDLINE on STN DUPLICATE 5
ACCESSION NUMBER: 2001381129 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11163472
TITLE: Vaccines for **Moraxella** catarrhalis.
AUTHOR: McMichael J C
CORPORATE SOURCE: Wyeth-Lederle Vaccines, 211 Bailey Road, West Henrietta, NY 14586-9728, USA.. mcmichj@war.wyeth.com
SOURCE: Vaccine, (2000 Dec 8) Vol. 19 Suppl 1, pp. S101-7.
Ref: 53
Journal code: 8406899. ISSN: 0264-410X.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200107
ENTRY DATE: Entered STN: 9 Jul 2001
Last Updated on STN: 18 Dec 2002
Entered Medline: 5 Jul 2001

AB Vaccine development for **Moraxella** catarrhalis is in the antigen identification stage. M. catarrhalis does not appear to synthesize secreted antigens such as exotoxins, nor does it appear to possess a carbohydrate capsule. Modified forms of these antigens are usually good vaccine components. There is some interest in whole bacterial cells and membrane fractions, but the search has largely focused on purified outer surface antigens. All of the present antigens have been selected based on the response seen in animals, although the **antibody** response seen in people exposed to the bacterium provides some guidance. The **antibody** response provides information related to the cross-strain preservation of epitopes and whether they are surface exposed. Antigens that elicit **antibodies** that have complement dependent bactericidal capacity, opsonophagocytic activity or interfere with one of the antigen's known functions such as adhesion or nutrient acquisition are particularly valued. In addition to examining the **antibody** response, some antigens have been evaluated in a murine pulmonary clearance model. Using these assays and model, several vaccine candidates have been identified. The antigens may be roughly classified by the function they serve the bacterium. One set appears to promote adhesion to host tissues and includes the hemagglutinins, ubiquitous surface protein A1 (UspA1), and possibly the CD protein. A second set is involved in nutrient acquisition. This set includes the lactoferrin binding protein A (LbpA) and lactoferrin binding protein B (LbpB), the **transferrin binding protein A (TbpA)** and **transferrin binding protein B (TbpB)**, the CD and E porins, and the Catarrhalis outer membrane protein B (CopB). A third set is comprised of antigens involved in virulence and it includes lipooligosaccharide (LOS) and the ubiquitous surface protein

A2 (UspA2). Antigens of unknown function, such as the 200K protein, may also be vaccine candidates. The antigens that are most suitable will be determined in clinical studies that are only beginning now.

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ACCESSION NUMBER: 2001053636 EMBASE
TITLE: Vaccines for **Moraxella** catarrhalis.
AUTHOR: McMichael J.C.
CORPORATE SOURCE: J.C. McMichael, Wyeth-Lederle Vaccines, 211 Bailey Road, West Henrietta, NY 14586-9728, United States. mcmichj@war.wyeth.com
SOURCE: Vaccine, (8 Dec 2000) Vol. 19, No. SUPPL. 1, pp. S101-S107. .
Refs: 53
ISSN: 0264-410X CODEN: VACCDE
PUBLISHER IDENT.: S 0264-410X(00)00287-5
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 004 Microbiology
011 Otorhinolaryngology
017 Public Health, Social Medicine and Epidemiology
026 Immunology, Serology and Transplantation
037 Drug Literature Index
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 16 Mar 2001
Last Updated on STN: 16 Mar 2001

AB Vaccine development for **Moraxella** catarrhalis is in the antigen identification stage. M. catarrhalis does not appear to synthesize secreted antigens such as exotoxins, nor does it appear to possess a carbohydrate capsule. Modified forms of these antigens are usually good vaccine components. There is some interest in whole bacterial cells and membrane fractions, but the search has largely focused on purified outer surface antigens. All of the present antigens have been selected based on the response seen in animals, although the **antibody** response seen in people exposed to the bacterium provides some guidance. The **antibody** response provides information related to the cross-strain preservation of epitopes and whether they are surface exposed. Antigens that elicit **antibodies** that have complement dependent bactericidal capacity, opsonophagocytic activity or interfere with one of the antigen's known functions such as adhesion or nutrient acquisition are particularly valued. In addition to examining the **antibody** response, some antigens have been evaluated in a murine pulmonary clearance model. Using these assays and model, several vaccine candidates have been identified. The antigens may be roughly classified by the function they serve the bacterium. One set appears to promote adhesion to host tissues and includes the hemagglutinins, ubiquitous surface protein A1 (UspA1), and possibly the CD protein. A second set is involved in nutrient acquisition. This set includes the lactoferrin binding protein A (LbpA) and lactoferrin binding protein **B** (LbpB), the **transferrin binding protein A** (**TbpA**) and **transferrin binding protein B** (**TbpB**), the CD and E porins, and the Catarrhalis outer membrane protein B (CopB). A third set is comprised of antigens involved in virulence and it includes lipooligosaccharide (LOS) and the ubiquitous surface protein A2 (UspA2). Antigens of unknown function, such as the 200K protein, may also be vaccine candidates. The antigens that are most suitable

will be determined in clinical studies that are only beginning now.

L9 ANSWER 16 OF 25 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 1999-620376 [53] WPIDS
CROSS REFERENCE: 1997-457533 [42]
DOC. NO. CPI: C1999-181129
TITLE: Nucleic acid encoding **transferrin binding protein 2** of **Moraxella** catarrhalis, useful for diagnostics, immunization and recombinant protein production.
DERWENT CLASS: B04 D16
INVENTOR(S): DU, R; HARKNESS, R E; KLEIN, M H; LOOSMORE, S M; MYERS, L E; SCHRYVERS, A B; YANG, Y
PATENT ASSIGNEE(S): (CONN-N) CONNAUGHT LAB LTD; (AVET) AVENTIS PASTEUR LTD
COUNTRY COUNT: 83
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9952947	A2	19991021	(199953)*	EN	113
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW					
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW					
AU 9931350	A	19991101	(200013)		
EP 1071715	A2	20010131	(200108)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
BR 9909576	A	20011016	(200170)		
JP 2002511490	W	20020416	(200242)		122
US 6440701	B1	20020827	(200259)		
AU 761008	B	20030529	(200346)		
NZ 507978	A	20030725	(200357)		
MX 2000010026	A1	20050301	(200568)		

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 9952947	A2		WO 1999-CA307	19990412
AU 9931350	A		AU 1999-31350	19990412
EP 1071715	A2		EP 1999-913049	19990412
			WO 1999-CA307	19990412
BR 9909576	A		BR 1999-9576	19990412
			WO 1999-CA307	19990412
JP 2002511490	W		WO 1999-CA307	19990412
			JP 2000-543503	19990412
US 6440701	B1	CIP of	US 1996-613009	19960308
		CIP of	US 1997-778570	19970103
		CIP of	WO 1997-CA163	19970307
			US 1998-59584	19980414
AU 761008	B		AU 1999-31350	19990412
NZ 507978	A		NZ 1999-507978	19990412
			WO 1999-CA307	19990412
MX 2000010026	A1		WO 1999-CA307	19990412

MX 2000-10026 20001013

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9931350	A	Based on	WO 9952947
EP 1071715	A2	Based on	WO 9952947
BR 9909576	A	Based on	WO 9952947
JP 2002511490	W	Based on	WO 9952947
AU 761008	B	Previous Publ.	AU 9931350
		Based on	WO 9952947
NZ 507978	A	Based on	WO 9952947
MX 2000010026	A1	Based on	WO 9952947

PRIORITY APPLN. INFO: US 1998-59584 19980414; US
1996-613009 19960308; US
1997-778570 19970103; WO
1997-CA163 19970307

AN 1999-620376 [53] WPIDS
CR 1997-457533 [42]
AB WO 9952947 A UPAB: 20051024
NOVELTY - Purified, isolated nucleic acid (I) encoding a transferrin binding protein (**Tbp2**) (II) from **Moraxella** catarrhalis strains M35, 3 or LES1, is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(a) vectors containing (I);
(b) transformed host cells containing the vector of (a);
(c) recombinant production of (II);
(d) recombinant (II) produced this way;
(e) an immunogenic composition containing (I) or recombinant (II) plus a carrier;
(f) a method for detecting **Moraxella** nucleic acid that encodes transferrin receptor protein by the formation of a hybrid with (I); and
(g) diagnostic kits for the method of (f).
ACTIVITY - Antibacterial; cytostatic; auditory.
MECHANISM OF ACTION - Tbp binding blocker.
(I) and (II) generate an immune response that includes anti-Tbp **antibodies** and opsonizing and/or bactericidal **antibodies.** By blocking binding to Tbp, the **antibodies** stop the bacterium from acquiring essential iron.
USE - (I) is used to produce recombinant (II); for identification or diagnosis of **Moraxella**, or for cloning related species, using hybridization assays; and for genetic immunization against **Moraxella** infections, e.g. otitis media. (II) are useful as antigens, either in vaccines (including components of conjugate vaccines that contain antigens from other bacteria or from tumors, in which case they elicit production of antitumor **antibodies** that may be coupled to chemotherapeutic agents or biologically active agents) or to raise **antibodies** (for use as diagnostic reagents and for treating **Moraxella** infections), also for detecting **Moraxella antibodies.**
Dwg.0/9

L9 ANSWER 17 OF 25 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 1999:820886 SCISEARCH
THE GENUINE ARTICLE: 249QD

TITLE: Construction and characterization of **Moraxella** catarrhalis mutants defective in expression of transferrin receptors

AUTHOR: Luke N R; Campagnari A A (Reprint)
CORPORATE SOURCE: SUNY Buffalo, Dept Microbiol, Biomed Res Bldg, Rm 143, 3435 Main St, Buffalo, NY 14214 USA (Reprint); SUNY Buffalo, Dept Microbiol, Buffalo, NY 14214 USA; SUNY Buffalo, Dept Med, Buffalo, NY 14214 USA; SUNY Buffalo, Div Infect Dis, Buffalo, NY 14214 USA; SUNY Buffalo, Ctr Microbial Pathogenesis, Buffalo, NY 14214 USA
COUNTRY OF AUTHOR: USA

SOURCE: INFECTION AND IMMUNITY, (NOV 1999) Vol. 67, No. 11, pp. 5815-5819.
ISSN: 0019-9567.
PUBLISHER: AMER SOC MICROBIOLOGY, 1752 N ST NW, WASHINGTON, DC 20036-2904 USA.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 31
ENTRY DATE: Entered STN: 1999
Last Updated on STN: 1999

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB We have previously reported the construction of an isogenic mutant defective in expression of OmpB1, the **TbpB** homologue, in **Moraxella** catarrhalis 7169, In this report, we have extended these studies by constructing and characterizing two new isogenic mutants in this clinical isolate. One mutant is defective in expression of **TbpA**, and the other mutant is defective in expression of both **TbpA** and **TbpB**. These isogenic mutants were confirmed by using PCR analysis, sodium dodecyl sulfate-polyacrylamide gel electrophoresis, and sequencing. In vitro growth studies, comparing all three mutants, demonstrated that the **tbpA** mutant and the tbpAB mutant were severely limited in their ability to grow with human holotransferrin as the sole source of iron. In contrast, the ompB1 (**tbpB**) mutant was capable of utilizing iron from human transferrin, although not to the extent of the parental strain. While affinity chromatography with human holotransferrin showed that each Tbp was capable of binding independently to transferrin, solid-phase transferrin binding studies using whole cells demonstrated that the **tbpA** mutant exhibited binding characteristics similar to those seen with the wild-type bacteria. However, the ompB1 (**tbpB**) mutant exhibited a diminished capacity for binding transferrin, and no binding was detected with the double mutant. These data suggest that the M. catarrhalis **TbpA** is necessary for the acquisition of iron from transferrin. In contrast, **TbpB** is not essential but may serve as a facilitory protein that functions to optimize this process. Together these mutants are essential to provide a more thorough understanding of iron acquisition mechanisms utilized by M. catarrhalis.

L9 ANSWER 18 OF 25 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 1999:561923 SCISEARCH
THE GENUINE ARTICLE: 219ZA
TITLE: Analysis of the immunological responses to transferrin and lactoferrin receptor proteins from **Moraxella** catarrhalis
AUTHOR: Yu R H; Bonnah R A; Ainsworth S; Schryvers A B

(Reprint)
CORPORATE SOURCE: Univ Calgary, Dept Microbiol & Infect Dis, 3330 Hosp Dr NW, Calgary, AB T2N 4N1, Canada (Reprint); Univ Calgary, Dept Microbiol & Infect Dis, Calgary, AB T2N 4N1, Canada; Vet Adm Hosp, Alexandria, LA USA
COUNTRY OF AUTHOR: Canada; USA
SOURCE: INFECTION AND IMMUNITY, (AUG 1999) Vol. 67, No. 8, pp. 3793-3799.
ISSN: 0019-9567.
PUBLISHER: AMER SOC MICROBIOLOGY, 1752 N ST NW, WASHINGTON, DC 20036-2904 USA.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 45
ENTRY DATE: Entered STN: 1999
Last Updated on STN: 1999
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB **Moraxella** catarrhalis expresses surface receptor proteins that specifically bind host transferrin (Tf) and lactoferrin (Lf) in the first step of the iron acquisition pathway. Acute- and convalescent-phase antisera from a series of patients with M. catarrhalis pulmonary infections were tested against Tf and Lf receptor proteins purified from the corresponding isolates. After the purified proteins had been separated by sodium dodecyl sulfate-polyacrylamide gel electrophoresis and Western blotting, we observed strong reactivity against Tf-binding protein B (**TbpB** ; also called OMP1) and Lf-binding protein B (LbpB) but little or no reactivity against Tf-binding protein A (**TbpA**) or Lf-binding protein A (LbpA), using the convalescent-phase antisera, Considerable antigenic heterogeneity was observed when **TbpBs** and LbpBs isolated from different strains were tested with the convalescent-phase antisera, Comparison to the reactivity against electroblotted total cellular proteins revealed that the immune response against LbpB and **TbpB** constitutes a significant portion of the total detectable immune response to M. catarrhalis proteins. Preparations of affinity-isolated **TbpA** and LbpA reacted with convalescent-phase antisera in a solid-phase binding assay, but blocking with soluble **TbpB**, soluble LbpB, or extracts from an LbpA(-) mutant demonstrated that this reactivity was attributed to contaminants in the **TbpA** and LbpA preparations. These studies demonstrate the immunogenicity of M. catarrhalis **TbpB** and LbpB in humans and support their potential as vaccine candidates.

L9 ANSWER 19 OF 25 MEDLINE on STN DUPLICATE 6

ACCESSION NUMBER: 2000036213 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10571435
TITLE: **Antibody** response to outer membrane proteins of **Moraxella** catarrhalis in children with otitis media.
AUTHOR: Mathers K; Leinonen M; Goldblatt D
CORPORATE SOURCE: Immunobiology Unit, Institute of Child Health, London, UK.
SOURCE: The Pediatric infectious disease journal, (1999 Nov) Vol. 18, No. 11, pp. 982-8.
Journal code: 8701858. ISSN: 0891-3668.
PUB. COUNTRY: United States
DOCUMENT TYPE: (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English

FILE SEGMENT: Priority Journals
ENTRY MONTH: 199912
ENTRY DATE: Entered STN: 13 Jan 2000
Last Updated on STN: 13 Jan 2000
Entered Medline: 3 Dec 1999

AB BACKGROUND: **Moraxella** catarrhalis is an important cause of bacterial otitis media, and a vaccine to prevent this disease would be highly desirable. Analysis of the dominant antigens on the surface of M. catarrhalis recognized by the human immune response to infection might aid in such a search. Such analysis would be most informative when studied in the eventual target age group for the vaccine; thus we have studied the immune response to M. catarrhalis in infants with otitis media. METHODS: Eighteen infants (mean age, 9.4 months) experiencing an episode of otitis media caused by M. catarrhalis were studied. Acute and convalescent **antibody** responses were studied by whole cell enzyme-linked immunosorbent assay (heterologous strain) and by immunoblotting of outer membrane proteins (OMPs). RESULTS: Specific IgG was detected in 17% of acute serum samples and in 61% of convalescent sera. A rise in specific IgG was detected in 10 of 12 (83%) children 8 months of age or older, compared with 1 of 6 (17%) in younger patients (P = 0.0128). Immunoblotting revealed **antibody** binding to several OMPs with some detectable cross-reactivity. Four dominant OMP targets were identified, corresponding to UspA, **TbpB**, CopB and a approximately 60-kDa protein. CONCLUSIONS: A combination of antigens might form the most suitable basis for a M. catarrhalis vaccine designed to prevent otitis media in this age group.

L9 ANSWER 20 OF 25 MEDLINE on STN DUPLICATE 7
ACCESSION NUMBER: 1999115543 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9916077
TITLE: Use of an isogenic mutant constructed in **Moraxella** catarrhalis To identify a protective epitope of outer membrane protein B1 defined by monoclonal **antibody** 11C6.
AUTHOR: Luke N R; Russo T A; Luther N; Campagnari A A
CORPORATE SOURCE: Department of Microbiology, State University of New York at Buffalo, Buffalo, New York 14214, USA.
SOURCE: Infection and immunity, (1999 Feb) Vol. 67, No. 2, pp. 681-7.
Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF105251
ENTRY MONTH: 199903
ENTRY DATE: Entered STN: 24 Mar 1999
Last Updated on STN: 24 Mar 1999
Entered Medline: 9 Mar 1999

AB **Moraxella** catarrhalis-induced otitis media continues to be a significant cause of infection in young children, prompting increased efforts at identifying effective vaccine antigens. We have previously demonstrated that M. catarrhalis expresses specific outer membrane proteins (OMPs) in response to iron limitation and that this organism can utilize transferrin and lactoferrin for in vitro growth. One of these proteins, which binds human transferrin, is OMP B1. As the human host presents a naturally iron-limited environment, proteins, like OMP B1, which are expressed in response to this nutritional stress are potential vaccine antigens. In this study, we have

developed monoclonal **antibody** (**MAb**) 11C6, which reacts to a surface-exposed epitope of OMP B1 expressed by M. catarrhalis 7169. This **antibody** was used to clone ompB1, and sequence analysis suggested that OMP B1 is the M. catarrhalis homologue to the **transferrin binding protein B** described for pathogenic Neisseriaceae, Haemophilus influenzae, Actinobacillus pleuropneumoniae, and M. catarrhalis. Expression of recombinant OMP B1 on the surface of Escherichia coli confers transferrin binding activity, confirming that this protein is likely involved in iron acquisition. In addition, ompB1 was used to construct an isogenic mutant in M. catarrhalis 7169. This mutant, termed 7169b12, was used as the control in bactericidal assays designed to determine if OMP B1 elicits protective **antibodies.** In the presence of **MAb** 11C6 and human complement, wild-type 7169 demonstrated a 99% decline in viability, whereas the ompB1 isogenic mutant was resistant to this bactericidal activity. Further analysis with **MAb** 11C6 revealed the presence of this OMP B1 epitope on 31% of the clinical isolates tested. These data suggest that OMP B1 is a potential vaccine antigen against M. catarrhalis infections.

L9 ANSWER 21 OF 25 MEDLINE on STN DUPLICATE 8
ACCESSION NUMBER: 1999429349 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10501241
TITLE: Evaluation of **a** 74-kDa **transferrin-binding protein** from **Moraxella** (**Branhamella**) catarrhalis as a vaccine candidate.
AUTHOR: Chen D; McMichael J C; VanDerMeid K R; Masi A W; Bortell E; Caplan J D; Chakravarti D N; Barniak V L
CORPORATE SOURCE: Wyeth-Lederle Vaccines, New York, NY 14586-9728, USA.
SOURCE: Vaccine, (1999 Aug 20) Vol. 18, No. 1-2, pp. 109-18. Journal code: 8406899. ISSN: 0264-410X.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199910
ENTRY DATE: Entered STN: 11 Jan 2000
Last Updated on STN: 18 Dec 2002
Entered Medline: 28 Oct 1999

AB An outer membrane protein from **Moraxella** catarrhalis with a mass of 74-kDa was isolated and evaluated as a vaccine candidate. The 74-kDa protein binds transferrin, and appears to be related to the other proteins from the organism that are reported to bind transferrin. The 74-kDa protein possessed conserved epitopes exposed on the bacterial surface. This is based on the reactivity with whole bacterial cells as well as complement dependent bactericidal activity of sera from mice immunized with the isolated proteins from the O35E and TTA24 isolates. However, there was divergence in the degree of **antibody** cross-reactivity with the protein from one strain to another. This serotypic divergence was reflected in both the complement-dependent bactericidal activities of the **antibodies** elicited in mice and the capacity of immune mice to clear the bacteria in a murine pulmonary model. **Antibodies** affinity purified from human plasma lacked bactericidal activity even though they were reactive with all the tested isolates. The 74-kDa protein appears to be a good vaccine candidate, but more studies are needed to understand its antigenic variability and whether **antibodies** toward it are protective.

L9 ANSWER 22 OF 25 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 1998-437001 [37] WPIDS
DOC. NO. CPI: C1998-132762
TITLE: Ester polymers from hydroxy acids and hydroxy amino acids - are biocompatible and biodegradable, as carrier for bioactive materials, e.g. vaccines, proteins, anti-sense oligo-nucleotide(s), drugs.
DERWENT CLASS: A23 A96 B04 D16
INVENTOR(S): CHONG, P; KLEIN, M H; SOKOLL, K K; KLEIN, M
PATENT ASSIGNEE(S): (CONN-N) CONNAUGHT LAB LTD; (SNFI) SANOFI PASTEUR LTD; (AVET) AVENTIS PASTEUR LTD; (CHON-I) CHONG P; (KLEI-I) KLEIN M H; (SOKO-I) SOKOLL K K
COUNTRY COUNT: 80
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9828357	A1	19980702	(199837)*	EN	146
RW: AT BE CH DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW					
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW					
AU 9854721	A	19980717	(199848)		
EP 946624	A1	19991006	(199946)	EN	
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
US 6042820	A	20000328	(200023)		
JP 2000509428	W	20000725	(200041)		133
BR 9714065	A	20001024	(200058)		
MX 9905724	A1	19991001	(200103)		
NZ 336718	A	20010126	(200109)		
AU 729305	B	20010201	(200112)		
US 6228423	B1	20010508	(200128)		
US 6287604	B1	20010911	(200154)		
US 6312732	B1	20011106	(200170)		
JP 3242118	B2	20011225	(200203)		58
JP 2002138139	A	20020514	(200236)		52
US 6471996	B1	20021029	(200274)		
EP 946624	B1	20030402	(200325)	EN	
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
DE 69720516	E	20030508	(200338)		
JP 3428972	B2	20030722	(200350)		52
JP 2003261661	A	20030919	(200363)		52
US 6623764	B1	20030923	(200364)		
MX 207857	B	20020520	(200365)		
ES 2196385	T3	20031216	(200413)		
US 2005163745	A1	20050728	(200550)		
CA 2275033	C	20050802	(200552)	EN	

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9828357	A1	WO 1997-CA980	19971219
AU 9854721	A	AU 1998-54721	19971219
EP 946624	A1	EP 1997-951024	19971219
		WO 1997-CA980	19971219
US 6042820	A	US 1996-770850	19961220

JP 2000509428	W		WO 1997-CA980	19971219
			JP 1998-528169	19971219
BR 9714065	A		BR 1997-14065	19971219
			WO 1997-CA980	19971219
MX 9905724	A1		MX 1999-5724	19990618
NZ 336718	A		NZ 1997-336718	19971219
			WO 1997-CA980	19971219
AU 729305	B		AU 1998-54721	19971219
US 6228423	B1	Div ex	US 1996-770850	19961220
			US 2000-501373	20000211
US 6287604	B1	Div ex	US 1996-770850	19961220
			US 2000-502674	20000211
US 6312732	B1	Div ex	US 1996-770850	19961220
			US 2000-499533	20000211
JP 3242118	B2		WO 1997-CA980	19971219
			JP 1998-528169	19971219
JP 2002138139	A	Div ex	JP 1998-528169	19971219
			JP 2001-255329	19971219
US 6471996	B1	Div ex	US 1996-770850	19961220
			US 2000-499532	20000211
EP 946624	B1		EP 1997-951024	19971219
			WO 1997-CA980	19971219
DE 69720516	E		DE 1997-620516	19971219
			EP 1997-951024	19971219
			WO 1997-CA980	19971219
JP 3428972	B2	Div ex	JP 1998-528169	19971219
			JP 2001-255329	19971219
JP 2003261661	A	Div ex	JP 2001-255329	19971219
			JP 2003-65795	19971219
US 6623764	B1	CIP of	US 1996-770850	19961220
			WO 1997-CA980	19971219
			US 1999-331118	19990831
MX 207857	B		WO 1997-CA980	19971219
			MX 1999-5724	19990618
ES 2196385	T3		EP 1997-951024	19971219
US 2005163745	A1	CIP of	US 1996-770850	19961220
		Cont of	WO 1997-CA980	19971219
		Cont of	US 1999-331118	19990831
			US 2003-620686	20030717
CA 2275033	C		CA 1997-2275033	19971219
			WO 1997-CA980	19971219

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9854721	A	Based on	WO 9828357
EP 946624	A1	Based on	WO 9828357
JP 2000509428	W	Based on	WO 9828357
BR 9714065	A	Based on	WO 9828357
NZ 336718	A	Based on	WO 9828357
AU 729305	B	Previous Publ.	AU 9854721
		Based on	WO 9828357
US 6228423	B1	Div ex	US 6042820
US 6287604	B1	Div ex	US 6042820
US 6312732	B1	Div ex	US 6042820
JP 3242118	B2	Previous Publ.	JP 200009428
		Based on	WO 9828357
US 6471996	B1	Div ex	US 6042820
EP 946624	B1	Based on	WO 9828357

Searcher : Shears 571-272-2528

DE 69720516	E	Based on	EP 946624
		Based on	WO 9828357
JP 3428972	B2	Previous Publ.	JP 2002138139
US 6623764	B1	CIP of	US 6082820
		Based on	WO 9828357
ES 2196385	T3	Based on	EP 946624
US 2005163745	A1	CIP of	US 6042820
		Cont of	US 6623764
CA 2275033	C	Based on	WO 9828357

PRIORITY APPLN. INFO: US 1996-770850 19961220; US
2000-501373 20000211; US
2000-502674 20000211; US
2000-499533 20000211; US
2000-499532 20000211; US
1999-331118 19990831; US
2003-620686 20030717

AN 1998-437001 [37] WPIDS

AB WO 9828357 A UPAB: 19980916

Biodegradable, biocompatible ester polymer from hydroxy acids and hydroxy (or thio) amino acids of formula (I) is new. R1-R5 = H or alkyl; R6 = H, a protecting group, a spacer molecule, or a biologically active agent; X = O or S; and x, y are integers. ALso claimed are: (i) Preparation of the polymer comprising: (a) forming a monomer mixture containing at least one alpha -hydroxy acid and at least one pseudo amino acid having an amine protecting group with an organic solvent solution of an esterification catalyst under inert atmospheric conditions; (b) copolymerising the monomers; and (c) isolating the polymer; (ii) a particulate carrier for delivery of biologically active materials to a host comprising a polymer backbone of formula (I); (iii) a composition comprising the particulate carrier in (ii) and at least one biologically active material entrapped within; (iv) preparation of a particulate carrier for delivery of biologically active materials to a host; (v) an immunogenic composition comprising the particulate carrier in (ii), an immunogen and a physiolgically acceptable carrier.

USE - (I) can be formed into films or microparticles, to serve as particulate carriers for slow or delayed release delivery of biologically active materials for diagnostic or therapeutic purposes. The bioactive materials are mixed into or entrapped within the copolymer, or even coupled to them, optionally through a spacer. Preferred (I) degrade in the body to benign metabolites which occur naturally, to release the bioactive agent. The bioactives are especially vaccines or similar agents which elicit an immunogenic response; examples are H, influenzae proteins, including non-proteolytic Hin-47 analogue, D15, P1, P2 and P6; influenza virus or its protein, as multivalent or monovalent influenza virus vaccine; **Moraxella** catarrhalis protein e.g. **Tbp2** protein; and Helicobacter pylori protein, e.g. urease. Other bioactives are proteins and their mimetics, bacteria and their lysates, viruses, e.g. respiratory syncytial virus, virus infected cell lysates, DNA plasmids, antisense RNA, DNA, and oligonucleotides, peptides, e.g. CLTB-36 and M2, antigens, **antibodies**, a wide range of pharmacological agents (e.g. analgesics, antibiotics, antihypertensives, and steroids), carbohydrates, lipids, lipidated amino acids, glycolipids, haptens, or combinations of the above. Attached bioactive agents include cell bioadhesion groups, macrophage stimulators, polyamino acids, and polyethylene glycol. In diagnosis, imaging agents, together with the appropriate **antibody** to provide targeting, diseased tissue can be monitored or the disease

identified. These can be made up as kits. Antibiotic compositions of (I) can also be used as coatings, for surgical implants, catheters, and other devices, to combat infections.
Dwg.0/21

L9 ANSWER 23 OF 25 MEDLINE on STN DUPLICATE 9
ACCESSION NUMBER: 1998380363 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9712766
TITLE: The **transferrin binding protein B** of **Moraxella** catarrhalis elicits bactericidal **antibodies** and is a potential vaccine antigen.
AUTHOR: Myers L E; Yang Y P; Du R P; Wang Q; Harkness R E; Schryvers A B; Klein M H; Loosmore S M
CORPORATE SOURCE: Pasteur Merieux Connaught Canada Research, North York, Ontario, Canada M2R 3T4.
SOURCE: Infection and immunity, (1998 Sep) Vol. 66, No. 9, pp. 4183-92.
Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF039311; GENBANK-AF039312; GENBANK-AF039313; GENBANK-AF039314; GENBANK-AF039315; GENBANK-AF039316
ENTRY MONTH: 199810
ENTRY DATE: Entered STN: 20 Oct 1998
Last Updated on STN: 18 Dec 2002
Entered Medline: 2 Oct 1998

AB The transferrin binding protein genes (**tbpA** and **tbpB**) from two strains of **Moraxella** catarrhalis have been cloned and sequenced. The genomic organization of the M. catarrhalis transferrin binding protein genes is unique among known bacteria in that **tbpA** precedes **tbpB** and there is a third gene located between them. The deduced sequences of the M. catarrhalis **TbpA** proteins from two strains were 98% identical, while those of the **TbpB** proteins from the same strains were 63% identical and 70% similar. The third gene, tentatively called orf3, encodes a protein of approximately 58 kDa that is 98% identical between the two strains. The **tbpB** genes from four additional strains of M. catarrhalis were cloned and sequenced, and two potential families of **TbpB** proteins were identified based on sequence similarities. Recombinant **TbpA** (rTbpA), rTbpB, and rORF3 proteins were expressed in Escherichia coli and purified. rTbpB was shown to retain its ability to bind human transferrin after transfer to a membrane, but neither rTbpA nor rORF3 did. Monospecific anti-rTbpA and anti-rTbpB **antibodies** were generated and used for immunoblot analysis, which demonstrated that epitopes of M. catarrhalis **TbpA** and **TbpB** were antigenically conserved and that there was constitutive expression of the tbp genes. In the absence of an appropriate animal model, anti-rTbpA and anti-rTbpB **antibodies** were tested for their bactericidal activities. The anti-rTbpA antiserum was not bactericidal, but anti-rTbpB antisera were found to kill heterologous strains within the same family. Thus, if bactericidal ability is clinically relevant, a vaccine comprising multiple rTbpB antigens may protect against M. catarrhalis disease.

L9 ANSWER 24 OF 25 MEDLINE on STN DUPLICATE 10
ACCESSION NUMBER: 1998149918 MEDLINE

DOCUMENT NUMBER: PubMed ID: 9480791
TITLE: Biochemical and immunological properties of lactoferrin binding proteins from **Moraxella** (**Branhamella**) catarrhalis.
AUTHOR: Bonnah R A; Yu R H; Wong H; Schryvers A B
CORPORATE SOURCE: Department of Microbiology and Infectious Diseases, University of Calgary, Heritage Medical Research Building, 3330-Hospital Drive, Calgary, Alberta, N.W. T2N 4N1, Canada.
SOURCE: Microbial pathogenesis, (1998 Feb) Vol. 24, No. 2, pp. 89-100.
Journal code: 8606191. ISSN: 0882-4010.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199804
ENTRY DATE: Entered STN: 16 Apr 1998
Last Updated on STN: 16 Apr 1998
Entered Medline: 9 Apr 1998

AB The Neisseriaceae can acquire iron (Fe) from lactoferrin (Lf) using host-Lf receptors on the bacterial surface. The binding proteins that are proposed to constitute the receptor have been identified by isolation with immobilized Lf. Using CopB-specific monoclonal **antibodies** and isogenic CopB mutants, we demonstrate that the 84 kDa protein isolated with immobilized human Lf from **Moraxella** catarrhalis using low stringency conditions is CopB, an 84 kDa membrane-spanning protein with similarities to other TonB-dependent outer membrane proteins. Affinity isolation of Lf receptors from a variety of M. catarrhalis strains using high stringency conditions revealed a 95 kDa protein migrating slightly faster than LbpA on SDS-PAGE in some strains. Convalescent human antisera from patients infected with M. catarrhalis reacted specifically with this protein, but not LbpA. Proteolysis experiments demonstrated that, unlike LbpA, it was rapidly degraded. The 95 kDa protein, but not LbpA, binds labelled Lf after SDS-PAGE and electroblotting, suggesting the 95 kDa protein is LbpB, the homologue of **TbpB.** This protein comigrates with LbpA in most strains, which may explain why it had not been previously identified.

L9 ANSWER 25 OF 25 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 1997:902500 SCISEARCH
THE GENUINE ARTICLE: YK218
TITLE: Characterisation of an outer membrane protein of **Moraxella** catarrhalis
AUTHOR: Mathers K E (Reprint); Goldblatt D; Aebi C; Yu R H; Schryvers A B; Hansen E J
CORPORATE SOURCE: INST CHILD HLTH, IMMUNOBIOL UNIT, LONDON WC1N 1EH, ENGLAND; UNIV TEXAS, SW MED CTR, DEPT MICROBIOL, DALLAS, TX 75235; UNIV CALGARY, DEPT MICROBIOL & INFECT DIS, CALGARY, AB T2N 4N1, CANADA
COUNTRY OF AUTHOR: ENGLAND; USA; CANADA
SOURCE: FEMS IMMUNOLOGY AND MEDICAL MICROBIOLOGY, (NOV 1997) Vol. 19, No. 3, pp. 231-236.
ISSN: 0928-8244.
PUBLISHER: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS.
DOCUMENT TYPE: Article; Journal

FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 22
ENTRY DATE: Entered STN: 1997
Last Updated on STN: 1997
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB To elucidate potential vaccine antigens, **Moraxella** catarrhalis outer membrane proteins (OMPs) were studied. We have previously shown an OMP to be a target for human IgG and have now further characterised this OMP which appears to have a molecular mass of 84 kDa and to be distinct from the 81-kDa OMP, CopB. Human transferrin was shown to bind the 84-kDa OMP alone. N-terminal sequencing of this OMP and purified M. catarrhalis **transferrin binding protein B (TbpB)** revealed homology both with each other and with the **TbpB** of Haemophilus influence and Neisseria meningitidis. Adsorption of human anti-serum with purified **TbpB** from two M. catarrhalis strains abolished or reduced binding of IgG to the 84-kDa OMP from three M. catarrhalis isolates. Ige binding to CopB was unaffected. It is clear that the 84-kDa OMP is distinct from CopB and is a likely homologue of **TbpB.**

FILE 'HCAPLUS' ENTERED AT 16:02:26 ON 18 MAY 2006
L10 24 SEA ABB=ON PLU=ON ((TF OR TRANSFERRIN)(W)BIND?(W)PROTEIN) AND (MORAXELLA OR BRANHAEMELLA OR BRANHAMELLA)
L11 10 SEA ABB=ON PLU=ON L10 AND (MOAB OR MAB OR ANTIBOD?)
L12 0 SEA ABB=ON PLU=ON L11 NOT L7

FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO' ENTERED AT 16:04:16 ON 18 MAY 2006
L13 35 SEA ABB=ON PLU=ON L11
L14 3 SEA ABB=ON PLU=ON L13 NOT L8
L15 3 DUP REM L14 (0 DUPLICATES REMOVED)

L15 ANSWER 1 OF 3 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 2004:139977 SCISEARCH
THE GENUINE ARTICLE: 769FL
TITLE: Analysis of **Moraxella** catarrhalis outer membrane antigens cross-reactive with Neisseria meningitidis and Neisseria lactamica
AUTHOR: Troncoso G; Sanchez S; Criado M T; Ferreiros C (Reprint)
CORPORATE SOURCE: Univ Santiago de Compostela, Dept Microbiol, Fac Farm, Santiago De Compostela 15782, Spain (Reprint)
COUNTRY OF AUTHOR: Spain
SOURCE: FEMS IMMUNOLOGY AND MEDICAL MICROBIOLOGY, (15 JAN 2004) Vol. 40, No. 1, pp. 89-94.
ISSN: 0928-8244.
PUBLISHER: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 23
ENTRY DATE: Entered STN: 20 Feb 2004
Last Updated on STN: 20 Feb 2004
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Mouse sera against outer membrane proteins from **Moraxella** catarrhalis, Neisseria meningitidis and Neisseria lactamica, and human sera from both healthy individuals and patients convalescing from

meningococcal meningitis were used to identify cross-reactive antigens. Mouse anti-N. meningitidis and anti-N. lactamica sera recognized 77, 62 and 32 kDa outer membrane antigens in M. catarrhalis strains; on the contrary, the meningococcal porin PorB (38-42 kDa) was recognized by one of the two anti-M. catarrhalis sera. Human sera from both healthy individuals and patients convalescing from meningococcal meningitis also showed cross-reactive **antibodies** against these proteins. The existence of cross-reactive antigens in M. catarrhalis and N. meningitidis (as well as in N. lactamica) could favor the development of natural immunization against both pathogens.

L15 ANSWER 2 OF 3 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 2000:476644 SCISEARCH
THE GENUINE ARTICLE: 326YL
TITLE: Progress toward the development of a vaccine to prevent **Moraxella** (**Branhamella**) catarrhalis infections
AUTHOR: McMichael J C (Reprint)
CORPORATE SOURCE: Wyeth Lederle Vaccines, 211 Bailey Rd, W Henrietta, NY 14586 USA (Reprint); Wyeth Lederle Vaccines, W Henrietta, NY 14586 USA
COUNTRY OF AUTHOR: USA
SOURCE: MICROBES AND INFECTION, (APR 2000) Vol. 2, No. 5, pp. 561-568.
ISSN: 1286-4579.
PUBLISHER: EDITIONS SCIENTIFIQUES MEDICALES ELSEVIER, 23 RUE LINOIS, 75724 PARIS CEDEX 15, FRANCE.
DOCUMENT TYPE: General Review; Journal
LANGUAGE: English
REFERENCE COUNT: 60
ENTRY DATE: Entered STN: 2000
Last Updated on STN: 2000
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB **Moraxella** catarrhalis is a major cause of otitis media and respiratory disease. Vaccine development is at the antigen identification stage. This review examines the more promising antigens, including the 200K protein, the hemagglutinins, the lactoferrin-binding proteins, the UspA proteins, the CopB protein, the **transferrin-binding proteins**, the CD protein, the E protein and lipooligosaccharide conjugates. Clinical testing of some of these antigens should begin soon. (C) 2000 Editions scientifiques et medicales Elsevier SAS.

L15 ANSWER 3 OF 3 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 1998:571292 SCISEARCH
THE GENUINE ARTICLE: 103TJ
TITLE: Cloning and expression of the **Moraxella** catarrhalis lactoferrin receptor genes
AUTHOR: Du R P; Wang Q J; Yang Y P; Schryvers A B; Chong P; Klein M H; Loosmore S M (Reprint)
CORPORATE SOURCE: Pasteur Merieux Connaught Canada Res Ctr, 1755 Steeles Ave W, N York, ON M2R 3T4, Canada (Reprint); Pasteur Merieux Connaught Canada Res Ctr, N York, ON M2R 3T4, Canada; Univ Calgary, Dept Microbiol & Infect Dis, Calgary, AB T2N 4N1, Canada
COUNTRY OF AUTHOR: Canada

SOURCE: INFECTION AND IMMUNITY, (AUG 1998) Vol. 66, No. 8, pp. 3656-3665.
ISSN: 0019-9567.
PUBLISHER: AMER SOC MICROBIOLOGY, 1752 N ST NW, WASHINGTON, DC 20036-2904 USA.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 40
ENTRY DATE: Entered STN: 1998
Last Updated on STN: 1998

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The lactoferrin receptor genes from two strains of **Moraxella** catarrhalis have been cloned and sequenced. The lfr genes are arranged as lbpB followed by lbpA, a gene arrangement found in lactoferrin and transferrin receptor operons from several bacterial species. In addition, a third open reading frame, orf3, is located one nucleotide downstream of lbpA. The deduced lactoferrin binding protein A (LbpA) sequences from the two strains were found to be 99% identical, the LbpB sequences were 92% identical, and the ORF3 proteins were 98% identical. The lbpB gene was PCR amplified and sequenced from a third strain of M. catarrhalis, and the encoded protein was found to be 77% identical and 84% similar to the other LbpB proteins. Recombinant LbpA and LbpB proteins were expressed from Escherichia coil, and antisera raised to the purified proteins were used to assess antigenic conservation in a panel of M. catarrhalis strains. The recombinant proteins were tested for the ability to bind human lactoferrin following gel electrophoresis and electroblotting, and rLbpB, but not rLbpA, was found to bind lactoferrin. Bactericidal **antibody** activity was measured, and while the anti-rLbpA antiserum was not bactericidal, the anti-rLbpB antisera were found to be weakly bactericidal. Thus, LbpB may have potential as a vaccine candidate.

L1 1 SEA FILE=REGISTRY ABB=ON PLU=ON "TRANSFERRIN BINDING PROTEIN B (NEISSERIA MENINGITIDIS STRAIN Z2491 (ALLELE 1) GENE TBPB ALLELE 1 FRAGMENT)"/CN

L2 6 SEA FILE=REGISTRY ABB=ON PLU=ON ("TRANSFERRIN BINDING PROTEIN 1 (NEISSERIA MENINGITIDIS STRAIN B16B6 CLONE PBMT1 GENE TBP1 PRECURSOR)"/CN OR "TRANSFERRIN BINDING PROTEIN 1 (NEISSERIA MENINGITIDIS STRAIN M982 CLONE PTG3720 GENE TBP1 PRECURSOR)"/CN OR "TRANSFERRIN BINDING PROTEIN 2 (NEISSERIA MENINGITIDIS STRAIN B16B6 CLONE PBMT1 GENE TBP2 PRECURSOR)"/CN OR "TRANSFERRIN BINDING PROTEIN 2 (NEISSERIA MENINGITIDIS STRAIN M982 CLONE PTG3720 GENE TBP2 PRECURSOR)"/CN OR "TRANSFERRIN BINDING PROTEIN A PRECURSOR (NEISSERIA MENINGITIDIS STRAIN Z2491 GENE TBPA)"/CN OR "TRANSFERRIN BINDING PROTEIN B (NEISSERIA MENINGITIDIS STRAIN Z2491 (ALLELE 1) GENE TBPB ALLELE 1 FRAGMENT)"/CN)

Searcher : Shears 571-272-2528

L3 19 SEA FILE=REGISTRY ABB=ON PLU=ON ("TRANSFERRIN-BINDING PROTEIN A (ACTINOBACILLUS SUIS STRAIN C84 GENE TBPA PRECURSOR)"/CN OR "TRANSFERRIN-BINDING PROTEIN A (ACTINOBACILLUS SUIS STRAIN SO4 GENE TBPA PRECURSOR)"/CN OR "TRANSFERRIN-BINDING PROTEIN A (MORAXELLA CATARRHALIS STRAIN 4223 GENE TBPA)"/CN OR "TRANSFERRIN-BINDING PROTEIN A (MORAXELLA CATARRHALIS STRAIN Q8 GENE TBPA)"/CN OR "TRANSFERRIN-BINDING PROTEIN A (NEISSERIA MENINGITIDIS STRAIN K454 GENE TBPA)"/CN OR "TRANSFERRIN-BINDING PROTEIN A (NEISSERIA MENINGITIDIS STRAIN Z2491 GENE TBPA)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (ACTINOBACILLUS SUIS STRAIN C84 GENE TBPB PRECURSOR)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (ACTINOBACILLUS SUIS STRAIN SO4 GENE TBPB PRECURSOR)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (MORAXELLA CATARRHALIS STRAIN 3 GENE TBPB)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (MORAXELLA CATARRHALIS STRAIN 4223 GENE TBPB)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (MORAXELLA CATARRHALIS STRAIN LES-1 GENE TBPB)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (MORAXELLA CATARRHALIS STRAIN M35 GENE TBPB)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (MORAXELLA CATARRHALIS STRAIN Q8 GENE TBPB)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (MORAXELLA CATARRHALIS STRAIN R1 GENE TBPB)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (NEISSERIA MENINGITIDIS CLONE PM153 OUTER MEMBRANE-ASSOCIATED GENE TBPB)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (NEISSERIA MENINGITIDIS STRAIN B16B6)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (NEISSERIA MENINGITIDIS STRAIN K454 GENE TBPB)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (NEISSERIA MENINGITIDIS STRAIN Z2491 GENE TBPB)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (PISCIRICKETTSIA SALMONIS GENE TBPB)"/CN)

L4 24 SEA FILE=REGISTRY ABB=ON PLU=ON L1 OR L2 OR L3

L16 2078 SEA FILE=USPATFULL ABB=ON PLU=ON L4 OR (TF OR TRANSFERRIN)(W)BIND?(W)PROTEIN OR TBP(2A)(1 OR 2 OR A OR B) OR TBPA OR TBPB OR TBP1 OR TBP2

L19 101 SEA FILE=USPATFULL ABB=ON PLU=ON L16(S)(MORAXELLA OR BRANHAEMELLA OR BRANHAMELLA)

L20 38 SEA FILE=USPATFULL ABB=ON PLU=ON L19(S)(ANTIBOD? OR MOAB OR MAB)

L21 38 SEA FILE=USPATFULL ABB=ON PLU=ON L20(S)(VACCIN? OR IMMUNIZ? OR IMMUNIS?)

L22 9 SEA FILE=USPATFULL ABB=ON PLU=ON L21(S)(MENINGITIS OR PACHYMENINGITIS OR OTITIS MEDIA)

L22 ANSWER 1 OF 9 USPATFULL on STN

ACCESSION NUMBER: 2005:158196 USPATFULL

TITLE: Nucleic acid and amino acid sequences relating to streptococcus pneumoniae for diagnostics and therapeutics

INVENTOR(S): Doucette-Stamm, Lynn A., Framingham, MA, UNITED STATES
Bush, David, Somerville, MA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005136404	A1	20050623
APPLICATION INFO.:	US 2003-617320	A1	20030710 (10)
RELATED APPLN. INFO.:	Division of Ser. No. US 1998-107433, filed on 30 Jun 1998, PENDING		

NUMBER DATE

Searcher : Shears 571-272-2528

PRIORITY INFORMATION:	US 1997-51553P	19970702 (60)
	US 1998-85131P	19980512 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Robert L. Spadafora, Genome Therapeutics Corporation, 100 Beaver Street, Waltham, MA, 02453, US	
NUMBER OF CLAIMS:	28	
EXEMPLARY CLAIM:	1	
LINE COUNT:	12957	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention provides isolated polypeptide and nucleic acid sequences derived from Streptococcus pneumonia that are useful in diagnosis and therapy of pathological conditions; antibodies against the polypeptides; and methods for the production of the polypeptides. The invention also provides methods for the detection, prevention and treatment of pathological conditions resulting from bacterial infection.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L22 ANSWER 2 OF 9 USPATFULL on STN

ACCESSION NUMBER:	2005:112372 USPATFULL		
TITLE:	Full-length human cDNAs encoding potentially secreted proteins		
INVENTOR(S):	Dumas Milne Edwards, Jean-Baptiste, Paris, FRANCE Bougueleret, Lydie, Petit Lancy, SWITZERLAND Jobert, Severin, Paris, FRANCE		
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005096458	A1	20050505
APPLICATION INFO.:	US 2003-643836	A1	20030819 (10)
RELATED APPLN. INFO.:	Division of Ser. No. US 2000-731872, filed on 7 Dec 2000, ABANDONED		
	NUMBER		DATE
PRIORITY INFORMATION:	US 1999-169629P		19991208 (60)
	US 2000-187470P		20000306 (60)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	SALIWANCHIK LLOYD & SALIWANCHIK, A PROFESSIONAL ASSOCIATION, PO BOX 142950, GAINESVILLE, FL, 32614-2950, US		
NUMBER OF CLAIMS:	16		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	5 Drawing Page(s)		
LINE COUNT:	28075		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention concerns GENSET polynucleotides and polypeptides. Such GENSET products may be used as reagents in forensic analyses, as chromosome markers, as tissue/cell/organelle-specific markers, in the production of expression vectors. In addition, they may be used in screening and diagnosis assays for abnormal GENSET expression and/or biological activity and for screening compounds that may be used in the treatment of GENSET-related disorders.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L22 ANSWER 3 OF 9 USPATFULL on STN
ACCESSION NUMBER: 2005:3832 USPATFULL
TITLE: Recombinant IL-9 antibodies and uses thereof
INVENTOR(S): Reed, Jennifer Lynne, Clarksburg, MD, UNITED STATES
PATENT ASSIGNEE(S): MedImmune, Inc. (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2005002934	A1	20050106	
APPLICATION INFO.:	US 2004-823253	A1	20040412	(10)

	NUMBER	DATE	
PRIORITY INFORMATION:	US 2003-477797P	20030610	(60)
	US 2003-462259P	20030411	(60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: JONES DAY, 222 EAST 41ST ST, NEW YORK, NY, 10017
NUMBER OF CLAIMS: 110
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 12 Drawing Page(s)
LINE COUNT: 11757
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides novel antibodies that immunospecifically bind to an IL-9 polypeptide and compositions comprising said antibodies. The present invention also provides methods and compositions preventing, treating, managing, and/or ameliorating diseases and disorders associated with aberrant expression and/or activity of IL 9 or IL-9 receptor or subunits thereof, autoimmune diseases, inflammatory diseases, proliferative diseases, and infections comprising administration of one or more antibodies thereof that immunospecifically bind to an IL-9 polypeptide. The invention also encompasses methods and compositions for diagnosing, monitoring, and prognosing these disorders. The present invention further relates to articles of manufacture and kits comprising antibodies that immunospecifically bind to an IL-9 polypeptide.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L22 ANSWER 4 OF 9 USPATFULL on STN
ACCESSION NUMBER: 2004:250212 USPATFULL
TITLE: Nucleic acid and amino acid sequences relating to Streptococcus pneumoniae for diagnostics and therapeutics
INVENTOR(S): Doucette-Stamm, Lynn A., Framingham, MA, United States
Bush, David, Somerville, MA, United States
PATENT ASSIGNEE(S): Genome Therapeutics Corporation, Waltham, MA, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6800744	B1	20041005	
APPLICATION INFO.:	US 1998-107433		19980630	(9)

	NUMBER	DATE	
PRIORITY INFORMATION:	US 1998-85131P	19980512	(60)

	US 1997-51553P 19970702 (60)
DOCUMENT TYPE:	Utility
FILE SEGMENT:	GRANTED
PRIMARY EXAMINER:	Brusca, John S.
ASSISTANT EXAMINER:	Zhou, Shubo "Joe "
LEGAL REPRESENTATIVE:	Genome Therapeutics Corporation
NUMBER OF CLAIMS:	14
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)
LINE COUNT:	11545

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention provides isolated polypeptide and nucleic acid sequences derived from Streptococcus pneumonia that are useful in diagnosis and therapy of pathological conditions; antibodies against the polypeptides; and methods for the production of the polypeptides. The invention also provides methods for the detection, prevention and treatment of pathological conditions resulting from bacterial infection.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L22 ANSWER 5 OF 9 USPATFULL on STN

ACCESSION NUMBER:	2003:219631 USPATFULL
TITLE:	Full-length human cDNAs encoding potentially secreted proteins
INVENTOR(S):	Dumas Milne Edwards, Jean-Baptiste, Paris, FRANCE Bougueleret, Lydie, Petit Lancy, SWITZERLAND Jobert, Severin, Paris, FRANCE

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003152921	A1	20030814
APPLICATION INFO.:	US 2001-876997	A1	20010608 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 2000-731872, filed on 7 Dec 2000, PENDING

	NUMBER	DATE
PRIORITY INFORMATION:	US 1999-169629P	19991208 (60)
	US 2000-187470P	20000306 (60)

DOCUMENT TYPE:	Utility
FILE SEGMENT:	APPLICATION
LEGAL REPRESENTATIVE:	Frank C. Eisenschenk, Ph.D., SALIWANCHIK, LLOYD & SALIWANCHIK, 2421 N.W. 41 STREET, SUITE A-1, GAINESVILLE, FL, 32606-6669
NUMBER OF CLAIMS:	22
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	5 Drawing Page(s)
LINE COUNT:	27600

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention concerns GENSET polynucleotides and polypeptides. Such GENSET products may be used as reagents in forensic analyses, as chromosome markers, as tissue/cell/organelle-specific markers, in the production of expression vectors. In addition, they may be used in screening and diagnosis assays for abnormal GENSET expression and/or biological activity and for screening compounds that may be used in the treatment of GENSET-related disorders.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L22 ANSWER 6 OF 9 USPATFULL on STN
ACCESSION NUMBER: 2003:180701 USPATFULL
TITLE: Sequence-directed DNA-binding molecules compositons and methods
INVENTOR(S): Edwards, Cynthia A., Menlo Park, CA, UNITED STATES
Cantor, Charles R., Del Mar, CA, UNITED STATES
Andrews, Beth M., Maynard, MA, UNITED STATES
Turin, Lisa M., Redwood City, CA, UNITED STATES
Fry, Kirk E., Palo Alto, CA, UNITED STATES
PATENT ASSIGNEE(S): Genelabs Technologies, Inc. (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003124530	A1	20030703
	US 6869765	B2	20050322
APPLICATION INFO.:	US 2001-993346	A1	20011113 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1999-354947, filed on 15 Jul 1999, GRANTED, Pat. No. US 6384208 Continuation of Ser. No. US 1995-482080, filed on 7 Jun 1995, GRANTED, Pat. No. US 6010849 Division of Ser. No. US 1993-171389, filed on 20 Dec 1993, GRANTED, Pat. No. US 5578444 Continuation-in-part of Ser. No. US 1993-123936, filed on 17 Sep 1993, GRANTED, Pat. No. US 5726014 Continuation-in-part of Ser. No. US 1992-996783, filed on 23 Dec 1992, GRANTED, Pat. No. US 5693463 Continuation-in-part of Ser. No. US 1991-723618, filed on 27 Jun 1991, ABANDONED
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: PERKINS COIE LLP, P.O. BOX 2168, MENLO PARK, CA, 94026
NUMBER OF CLAIMS: 33
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 47 Drawing Page(s)
LINE COUNT: 10851
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention defines a DNA: protein-binding assay useful for screening libraries of synthetic or biological compounds for their ability to bind DNA test sequences. The assay is versatile in that any number of test sequences can be tested by placing the test sequence adjacent to a defined protein binding screening sequence. Binding of molecules to these test sequence changes the binding characteristics of the protein molecule to its cognate binding sequence. When such a molecule binds the test sequence the equilibrium of the DNA:protein complexes is disturbed, generating changes in the concentration of free DNA probe. Numerous exemplary target test sequences (SEQ ID NO:1 to SEQ ID NO:600) are set forth. The assay of the present invention is also useful to characterize the preferred binding sequences of any selected DNA-binding molecule.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L22 ANSWER 7 OF 9 USPATFULL on STN
ACCESSION NUMBER: 2002:191539 USPATFULL
TITLE: Full-length human cDNAs encoding potentially secreted proteins
INVENTOR(S): Milne Edwards, Jean-Baptiste Dumas, Paris, FRANCE
Bougueleret, Lydie, Petit Lancy, SWITZERLAND
Jobert, Severin, Paris, FRANCE

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002102604	A1	20020801
APPLICATION INFO.:	US 2000-731872	A1	20001207 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1999-169629P	19991208 (60)
	US 2000-187470P	20000306 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: John Lucas, Ph.D., J.D., Genset Corporation, 10665 Srrento Valley Road, San Diego, CA, 92121-1609
NUMBER OF CLAIMS: 29
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 5 Drawing Page(s)
LINE COUNT: 28061
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention concerns GENSET polynucleotides and polypeptides. Such GENSET products may be used as reagents in forensic analyses, as chromosome markers, as tissue/cell/organelle-specific markers, in the production of expression vectors. In addition, they may be used in screening and diagnosis assays for abnormal GENSET expression and/or biological activity and for screening compounds that may be used in the treatment of GENSET-related disorders.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L22 ANSWER 8 OF 9 USPATFULL on STN
ACCESSION NUMBER: 2000:1692 USPATFULL
TITLE: Sequence-directed DNA binding molecules compositions and methods
INVENTOR(S): Edwards, Cynthia A., Menlo Park, CA, United States
Cantor, Charles R., Boston, MA, United States
Andrews, Beth M., Maynard, MA, United States
Turin, Lisa M., Redwood City, CA, United States
Fry, Kirk E., Palo Alto, CA, United States
PATENT ASSIGNEE(S): Genelabs Technologies, Inc., Redwood, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6010849		20000104
APPLICATION INFO.:	US 1995-482080		19950607 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1993-171389, filed on 20 Dec 1993, now patented, Pat. No. US 5578444 which is a continuation-in-part of Ser. No. US 1993-123936, filed on 17 Sep 1993, now patented, Pat. No. US 5726014 which is a continuation-in-part of Ser. No. US 1992-996783, filed on 23 Dec 1992, now patented, Pat. No. US 5693463 which is a continuation-in-part of Ser. No. US 1991-723618, filed on 27 Jun 1991, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Degen, Nancy
ASSISTANT EXAMINER: Schwartzman, Robert
LEGAL REPRESENTATIVE: Fabin, Gary R.Dehlinger & Associates
NUMBER OF CLAIMS: 11

EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 48 Drawing Figure(s); 47 Drawing Page(s)
LINE COUNT: 10022
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention defines a DNA:protein-binding assay useful for screening libraries of synthetic or biological compounds for their ability to bind DNA test sequences. The assay is versatile in that any number of test sequences can be tested by placing the test sequence adjacent to a defined protein binding screening sequence. Binding of molecules to these test sequence changes the binding characteristics of the protein molecule to its cognate binding sequence. When such a molecule binds the test sequence the equilibrium of the DNA:protein complexes is disturbed, generating changes in the concentration of free DNA probe. Numerous exemplary target test sequences (SEQ ID NO:1 to SEQ ID NO:600) are set forth. The assay of the present invention is also useful to characterize the preferred binding sequences of any selected DNA-binding molecule.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L22 ANSWER 9 OF 9 USPATFULL on STN
ACCESSION NUMBER: 1999:18912 USPATFULL
TITLE: Method of determining DNA sequence preference of a DNA-binding molecule
INVENTOR(S): Edwards, Cynthia A., Menlo Park, CA, United States
Cantor, Charles R., Boston, MA, United States
Andrews, Beth M., Maynard, MA, United States
Turin, Lisa M., Redwood City, CA, United States
Fry, Kirk E., Palo Alto, CA, United States
PATENT ASSIGNEE(S): Genelabs Technologies, Inc., Redwood City, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5869241		19990209
APPLICATION INFO.:	US 1995-475228		19950607 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1993-171389, filed on 20 Dec 1993, now patented, Pat. No. US 5578444 which is a continuation-in-part of Ser. No. US 1993-123936, filed on 17 Sep 1993, now patented, Pat. No. US 5726014 which is a continuation-in-part of Ser. No. US 1992-996783, filed on 23 Dec 1992, now patented, Pat. No. US 5693463 which is a continuation-in-part of Ser. No. US 1991-723618, filed on 27 Jun 1991, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Zitomer, Stepanie W.
ASSISTANT EXAMINER: Whisenant, Ethan
LEGAL REPRESENTATIVE: Fabian, Gary R., Stratford, Carol A., Dehlinger, Peter J.
NUMBER OF CLAIMS: 11
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 72 Drawing Figure(s); 47 Drawing Page(s)
LINE COUNT: 9840
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention defines a DNA:protein-binding assay useful for screening libraries of synthetic or biological compounds for their ability to bind DNA test sequences. The assay is versatile in that

any number of test sequences can be tested by placing the test sequence adjacent to a defined protein binding screening sequence. Binding of molecules to these test sequence changes the binding characteristics of the protein molecule to its cognate binding sequence. When such a molecule binds the test sequence the equilibrium of the DNA:protein complexes is disturbed, generating changes in the concentration of free DNA probe. Numerous exemplary target test sequences (SEQ ID NO:1 to SEQ ID NO:600) are set forth. The assay of the present invention is also useful to characterize the preferred binding sequences of any selected DNA-binding molecule.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

FILE 'MEDLINE' ENTERED AT 16:13:31 ON 18 MAY 2006

FILE LAST UPDATED: 17 MAY 2006 (20060517/UP). FILE COVERS 1950 TO DATE.

On December 11, 2005, the 2006 MeSH terms were loaded.

The MEDLINE reload for 2006 is now (26 Feb.) available. For details on the 2006 reload, enter HELP RLOAD at an arrow prompt (=>). See also:

http://www.nlm.nih.gov/mesh/
http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_med_data_changes.html
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_2006_MeSH.html

OLDMEDLINE is covered back to 1950.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2006 vocabulary.

This file contains CAS Registry Numbers for easy and accurate substance identification.

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L23          297 SEA FILE=MEDLINE ABB=ON  PLU=ON  "TRANSFERRIN-BINDING
                 PROTEINS"/CT
L24          923 SEA FILE=MEDLINE ABB=ON  PLU=ON  MORAXELLA/CT
L25            0 SEA FILE=MEDLINE ABB=ON  PLU=ON  L23 AND L24


L23          297 SEA FILE=MEDLINE ABB=ON  PLU=ON  "TRANSFERRIN-BINDING
                 PROTEINS"/CT
L26        68790 SEA FILE=MEDLINE ABB=ON  PLU=ON  BACTERIA/CT
L27           12 SEA FILE=MEDLINE ABB=ON  PLU=ON  L23 AND L26
L28        71275 SEA FILE=MEDLINE ABB=ON  PLU=ON  ANTIBODIES/CT
L29            0 SEA FILE=MEDLINE ABB=ON  PLU=ON  L27 AND L28

     (FILE 'HCAPLUS, MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH,
     JICST-EPLUS, JAPIO, USPATFULL' ENTERED AT 16:16:22 ON 18 MAY 2006)
L30          494 S "SCHRYVERS A"?/AU
L31          106 S L30 AND (L6 OR L10)
L32           43 S L31 AND (MOAB OR MAB OR ANTIBOD?)
L33           31 DUP REM L32 (12 DUPLICATES REMOVED)
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- Author

L33 ANSWER 1 OF 31 USPATFULL on STN
ACCESSION NUMBER: 2005:123768 USPATFULL
TITLE: Immunogenic formulations comprising oil bodies

INVENTOR(S): Deckers, Harm M., Calgary, CANADA
Rooijen, Gijs Van, Calgary, CANADA
Boothe, Joseph, Calgary, CANADA
Goll, Janis, Calgary, CANADA
Moloney, Maurice M., Calgary, CANADA
Schryvers, Anthony B., Calgary, CANADA
Alcantara, Joenel, Calgary, CANADA
Hutchins, Wendy A., Calgary, CANADA

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005106157	A1	20050519
APPLICATION INFO.:	US 2004-757720	A1	20040115 (10)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 2001-880901, filed on 15 Jun 2001, GRANTED, Pat. No. US 6761914
Continuation-in-part of Ser. No. US 2000-577147, filed on 24 May 2000, GRANTED, Pat. No. US 6372234
Continuation-in-part of Ser. No. US 1999-448600, filed on 24 Nov 1999, GRANTED, Pat. No. US 6183762
Continuation-in-part of Ser. No. US 1998-84777, filed on 27 May 1998, GRANTED, Pat. No. US 6146645

	NUMBER	DATE
PRIORITY INFORMATION:	US 1998-75863P	19980225 (60)
	US 1998-75864P	19980225 (60)
	US 1997-47779P	19970528 (60)
	US 1997-47753P	19970527 (60)
	US 2000-212130P	20000616 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: BERESKIN AND PARR, 40 KING STREET WEST, BOX 401, TORONTO, ON, M5H 3Y2, CA
NUMBER OF CLAIMS: 7
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 10 Drawing Page(s)
LINE COUNT: 2305
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides novel adjuvants which comprise oil bodies. The invention also provides vaccine or immunogenic formulations comprising oil bodies and an antigen and methods for preparing the vaccine or immunogenic formulations and the use of the vaccine or immunogenic formulations to elicit an immune response.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 2 OF 31 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 1
ACCESSION NUMBER: 2004:1126840 HCAPLUS
DOCUMENT NUMBER: 142:73414
TITLE: Transferrin-binding peptides and **antibodies** for preventing and treating bacterial infection
INVENTOR(S): **Schryvers, Anthony Bernard**
PATENT ASSIGNEE(S): Can.
SOURCE: U.S. Pat. Appl. Publ., 27 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 2004258695	A1	20041223	US 2004-769514		20040130
PRIORITY APPLN. INFO.:			US 2003-444113P	P	20030131

AB The present invention relates to transferrin-binding mols., particularly peptides, that can (a) bind to regions of transferrin that are recognized by **a** bacterial **transferrin binding protein**, and (**b**) elicit **antibodies** specifically recognizing the **transferrin binding protein.** Also provides are compns., pharmaceutical compns., and particularly vaccines comprising the mols., as well as **antibodies** against the mols. The mols. can be used to prevent or treat bacterial infections.

L33 ANSWER 3 OF 31 USPATFULL on STN

ACCESSION NUMBER:	2004:107255 USPATFULL			
TITLE:	Use of plant oil-bodies in vaccine delivery systems			
INVENTOR(S):	**Schryvers, Anthony B**, Alberta, CANADA Hutchins, Wendy A, Alberta, CANADA Moloney, Maurice M, Alberta, CANADA Alcantra, Joenel, Calgary, CANADA			
	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2004081654	A1	20040429	
APPLICATION INFO.:	US 2003-297585	A1	20030915	(10)
	WO 2001-CA872		20010615	
DOCUMENT TYPE:	Utility			
FILE SEGMENT:	APPLICATION			
LEGAL REPRESENTATIVE:	BERESKIN AND PARR, SCOTIA PLAZA, 40 KING STREET WEST-SUITE 4000 BOX 401, TORONTO, ON, M5H 3Y2			
NUMBER OF CLAIMS:	54			
EXEMPLARY CLAIM:	1			
NUMBER OF DRAWINGS:	8 Drawing Page(s)			
LINE COUNT:	2829			

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to the use of oil bodies as a vaccine adjuvant and delivery system for administration of vaccines by parenteral, mucosal (oral, nasal, pulmonary) and transdermal routes. In addition, the present invention relates to methods of eliciting an immune response in an animal by administering oil body-antigen complexes to said mammal. Finally, the present invention relates to methods of preparing oil body-antigen complexes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 4 OF 31 USPATFULL on STN

ACCESSION NUMBER:	2003:127871 USPATFULL
TITLE:	Transferrin receptor genes
INVENTOR(S):	Loosmore, Sheena M., Aurora, CANADA Harkness, Robin E., Willowdale, CANADA **Schryvers, Anthony B.**, Calgary, CANADA Chong, Pele, Richmond Hill, CANADA Gray-Owen, Scott, Calgary, CANADA Yang, Yan-Ping, Willowdale, CANADA Murdin, Andrew D., Newmarket, CANADA Klein, Michel H., Willowdale, CANADA

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003088086	A1	20030508
APPLICATION INFO.:	US 2002-43344	A1	20020114 (10)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1996-649518, filed on 17 May 1996, GRANTED, Pat. No. US 6361779
Continuation-in-part of Ser. No. US 1995-483577, filed on 7 Jun 1995, GRANTED, Pat. No. US 6015688
Continuation-in-part of Ser. No. US 1994-337483, filed on 8 Nov 1994, GRANTED, Pat. No. US 5922562
Continuation-in-part of Ser. No. US 1993-175116, filed on 29 Dec 1993, ABANDONED
Continuation-in-part of Ser. No. US 1993-148968, filed on 8 Nov 1993, ABANDONED

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: SIM & MCBURNEY, 330 UNIVERSITY AVENUE, 6TH FLOOR, TORONTO, ON, M5G 1R7
NUMBER OF CLAIMS: 17
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 144 Drawing Page(s)
LINE COUNT: 2602
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Purified and isolated nucleic acid is provided which encodes a transferrin receptor protein of a strain of Haemophilus or a fragment or an analog of the transferrin receptor protein. The nucleic acid sequence may be used to produce peptides free of contaminants derived from bacteria normally containing the **Tbp1** or **Tbp2** proteins for purposes of diagnostics and medical treatment. Furthermore, the nucleic acid molecule may be used in the diagnosis of infection. Also provided are recombinant **Tbp1** or **Tbp2** and methods for purification of the same. Live vectors expressing epitopes of transferrin receptor protein for vaccination are provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 5 OF 31 USPATFULL on STN
ACCESSION NUMBER: 2003:228247 USPATFULL
TITLE: **Transferrin binding proteins** of Pasteurella haemolytica and vaccines containing same
INVENTOR(S): Lo, Reggie Y. C., Guelph, CANADA
Schryvers, Anthony Bernard, Calgary, CANADA
Potter, Andrew Allan, Saskatoon, CANADA
PATENT ASSIGNEE(S): University Technologies International, Inc., Calgary, United States (non-U.S. corporation)
University of Guelph, Guelph, United States (non-U.S. corporation)
University of Saskatchewan, Saskatoon, United States (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6610506	B1	20030826
APPLICATION INFO.:	US 1996-753750		19961129 (8)

	NUMBER	DATE

PRIORITY INFORMATION: US 1995-8569P 19951201 (60)
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Minnifield, Nita
ASSISTANT EXAMINER: Harris, Alana M.
LEGAL REPRESENTATIVE: Baker Botts L.L.P.
NUMBER OF CLAIMS: 18
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 46 Drawing Figure(s); 36 Drawing Page(s)
LINE COUNT: 5051
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Novel **transferrin binding proteins** from Pasteurella haemolytica, and nucleic acid molecules encoding the novel proteins are disclosed. **Antibodies** against the novel proteins are disclosed. The invention also relates to vaccines containing the novel proteins of the invention. The invention also provides methods for identifying substances which affect the binding of transferrin to the proteins and methods for screening for agonists or antagonists of the binding of the proteins and transferrin.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 6 OF 31 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 2
ACCESSION NUMBER: 2002:237317 HCAPLUS
DOCUMENT NUMBER: 136:261813
TITLE: Transferrin receptor-encoding genes from Haemophilus influenzae strains and their uses for diagnostics and medical treatment
INVENTOR(S): Loosmore, Sheena M.; Harkness, Robin E.; **Schryvers, Anthony B.**; Chong, Pele; Gray-Owen, Scott; Yang, Yan-ping; Murdin, Andrew D.; Klein, Michel H.
PATENT ASSIGNEE(S): Aventis Pasteur Limited, Can.
SOURCE: U.S., 280 pp., Cont.-in-part of Ser. No. US 1995-483577, filed on 7 Jun 1995, now
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6361779	B1	20020326	US 1996-649518	19960517
US 5922562	A	19990713	US 1994-337483	19941108
US 6015688	A	20000118	US 1995-483577	19950607
CA 2223503	AA	19961219	CA 1996-2223503	19960607
WO 9640929	A2	19961219	WO 1996-CA399	19960607
WO 9640929	A3	19970306		
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN				
AU 9661177	A1	19961230	AU 1996-61177	19960607
AU 716506	B2	20000224		
EP 833920	A2	19980408	EP 1996-918543	19960607
EP 833920	B1	20040818		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI

JP 11506335	T2	19990608	JP 1997-500057	19960607
JP 3516688	B2	20040405		
BR 9608482	A	20010731	BR 1996-8482	19960607
AT 274059	E	20040915	AT 1996-918543	19960607
US 2003088086	A1	20030508	US 2002-43344	20020114
PRIORITY APPLN. INFO.:			US 1993-148968 B2	19931108
			US 1993-175116 B2	19931229
			US 1994-337483 A2	19941108
			US 1995-483577 A2	19950607
			US 1996-649518 A	19960517
			WO 1996-CA399 W	19960607

AB Purified and isolated genes are provided which encodes transferrin receptor proteins **Tbp1** and/or **Tbp2** of Haemophilus influenzae type b strains DL63, Eagan, MinnA, PAK12085, and SB33 and the non-typeable strains SB12, SB29, SB30, and SB32. The nucleic acid sequence may be used to produce peptides free of contaminants derived from bacteria normally containing the **Tbp1** or **Tbp2** proteins for purposes of diagnostics and medical treatment. Furthermore, the nucleic acid mol. may be used in the diagnosis of infection. Also provided are recombinant **Tbp1** or **Tbp2** and methods for purification of the same. Live vectors expressing epitopes of transferrin receptor protein for vaccination are provided. Thus, poliovirus vectors incorporating the H. influenzae strain DL63 **Tbp2** are neutralized by guinea-pig antisera raised against peptide LEGGFYGP, indicating that the viruses express this sequence in an antigenically recognizable form. Since H. influenzae **Tbp2** is produced in low amts by Escherichia coli, the Eagan strain **Tbp2** gene was truncated from its 3'-end using an Erase-a-base kit to produce a number of truncated analogs of **Tbp2.** The yield of Eagan rTbp2 is significantly increased by truncation of the C-terminal region of the protein. The infant rat model of bacteremia confirms the protective ability of anti-(truncated analogs of transferrin receptor protein **Tbp2**) **antibodies** even after removal of up to half of the **Tbp2** sequence.

REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L33 ANSWER 7 OF 31 USPATFULL on STN
ACCESSION NUMBER: 2002:140865 USPATFULL
TITLE: Vaccines comprising oil bodies
INVENTOR(S): Deckers, Harm M., Alberta, CANADA
Rooijen, Gijs Van, Alberta, CANADA
Boothe, Joseph, Alberta, CANADA
Goll, Janis, Alberta, CANADA
Moloney, Maurice M., Alberta, CANADA
Schryvers, Anthony B., Alberta, CANADA
Alcantara, Joenel, Alberta, CANADA
Hutchins, Wendy A., Alberta, CANADA

NUMBER KIND DATE

PATENT INFORMATION:	US 2002071846	A1	20020613
	US 6761914	B2	20040713
APPLICATION INFO.:	US 2001-880901	A1	20010615 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 2000-577147, filed on 24 May 2000, PENDING Continuation-in-part of Ser. No. US 1999-448600, filed on 24 Nov 1999, PATENTED Continuation-in-part of Ser. No. US 1998-84777, filed on 27 May 1998, PATENTED

PRIORITY INFORMATION:	NUMBER	DATE
	US 1998-75863P	19980225 (60)
	US 1998-75864P	19980225 (60)
	US 1997-47779P	19970528 (60)
	US 1997-47753P	19970527 (60)
	US 2000-212130P	20000616 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: BURNS DOANE SWECKER & MATHIS L L P, POST OFFICE BOX 1404, ALEXANDRIA, VA, 22313-1404
NUMBER OF CLAIMS: 27
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 10 Drawing Page(s)
LINE COUNT: 2348
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides novel adjuvants which comprise oil bodies. The invention also provides vaccine formulations comprising oil bodies and an antigen and methods for preparing the vaccines and the use of the vaccines to elicit an immune response.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 8 OF 31 USPATFULL on STN
ACCESSION NUMBER: 2002:217055 USPATFULL
TITLE: Transferrin receptor genes of **Moraxella**
INVENTOR(S): Myers, Lisa E., Guelph, CANADA
Schryvers, Anthony B., Calgary, CANADA
Harkness, Robin E., Willowdale, CANADA
Loosmore, Sheena M., Aurora, CANADA
Du, Run-Pan, Thornhill, CANADA
Yang, Yan-Ping, Willowdale, CANADA
Klein, Michel H., Willowdale, CANADA
PATENT ASSIGNEE(S): Aventis Pasteur Limited, Toronto, CANADA (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6440701	B1	20020827
APPLICATION INFO.:	US 1998-59584		19980414 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. WO 1997-CA163, filed on 7 Mar 1997 Continuation-in-part of Ser. No. US 1997-778570, filed on 3 Jan 1997 Continuation-in-part of Ser. No. US 1996-613009, filed on 8 Mar 1996
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Pak, Michael
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 13

EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 172 Drawing Figure(s); 172 Drawing Page(s)
LINE COUNT: 5170
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Purified and isolated nucleic acid molecules are provided which encode transferrin receptor proteins of **Moraxella**, such as M. catarrhalis or a fragment or an analog of the transferrin receptor protein. The nucleic acid sequence may be used to produce recombinant transferrin receptor proteins **Tbp1** and **Tbp2** of the strain of **Moraxella** free of other proteins of the **Moraxella** strain for purposes of diagnostics and medical treatment. Furthermore, the nucleic acid molecule may be used in the diagnosis of infection.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 9 OF 31 USPATFULL on STN
ACCESSION NUMBER: 2002:209653 USPATFULL
TITLE: Transferrin receptor of **moraxella**
INVENTOR(S): Myers, Lisa E., Guelph, CANADA
Schryvers, Anthony B., Calgary, CANADA
Harkness, Robin E., Willowdale, CANADA
Loosmore, Sheena M., Aurora, CANADA
Du, Run-Pan, Thornhill, CANADA
Yang, Yan-Ping, Willowdale, CANADA
Klein, Michel H., Willowdale, CANADA
PATENT ASSIGNEE(S): Aventis Pasteur Limited, Toronto, CANADA (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6437096	B1	20020820
APPLICATION INFO.:	US 1997-778570		19970103 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1996-613009, filed on 8 Mar 1996, now patented, Pat. No. US 6090576
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Pak, Michael
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 5
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 84 Drawing Figure(s); 84 Drawing Page(s)
LINE COUNT: 3942
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Purified and isolated nucleic acid molecules are provided which encode transferrin receptor proteins of **Moraxella**, such as M. catarrhalis or a fragment or an analog of the transferrin receptor protein. The nucleic acid sequence may be used to produce recombinant transferrin receptor proteins **Tbp1** and **Tbp2** of the strain of **Moraxella** free of other proteins of the **Moraxella** strain for purposes of diagnostics and medical treatment. Furthermore, the nucleic acid molecule may be used in the diagnosis of infection.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 10 OF 31 USPATFULL on STN
ACCESSION NUMBER: 2002:57587 USPATFULL
TITLE: Haemophilus transferrin receptor genes

INVENTOR(S): Loosmore, Sheena M., Aurora, CANADA
Harkness, Robin E., Willowdale, CANADA
Schryvers, Anthony B., Calgary, CANADA
Chong, Pele, Richmond Hill, CANADA
Gray-Owen, Scott, Calgary, CANADA
Yang, Yan-Ping, Willowdale, CANADA
Murdin, Andrew D., Newmarket, CANADA
Klein, Michel H., Willowdale, CANADA

PATENT ASSIGNEE(S): Aventis Pasteur Limited, Toronto, CANADA (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6358727	B1	20020319	
	WO 9513370		19950518	
APPLICATION INFO.:	US 1996-637654		19960805	(8)
	WO 1994-CA616		19941107	
			19960805	PCT 371 date

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1993-175116, filed on 29 Dec 1993, now abandoned
Continuation-in-part of Ser. No. US 1993-148968, filed on 8 Nov 1993, now abandoned

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Pak, Michael
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 9
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 149 Drawing Figure(s); 142 Drawing Page(s)
LINE COUNT: 6581
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Purified and isolated nucleic acid is provided which encodes a transferrin receptor protein of a strain of Haemophilus or a fragment or an analog of the transferrin receptor protein. The nucleic acid sequence may be used to produce peptides free of contaminants derived from bacteria normally containing the **Tbp1** or **Tbp2** proteins for purposes of diagnostics and medical treatment. Furthermore, the nucleic acid molecule may be used in the diagnosis of infection. Also provided are recombinant Tbp1 or **Tbp2** and methods for purification of the same. Live vectors expressing epitopes of transferrin receptor protein for vaccination are provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 11 OF 31 USPATFULL on STN
ACCESSION NUMBER: 2002:34191 USPATFULL
TITLE: Lactoferrin receptor protein
INVENTOR(S): **Schryvers, Anthony B.**, Calgary, CANADA
Bonnah, Robert A., Calgary, CANADA

PATENT ASSIGNEE(S): Aventis Pasteur Limited, Toronto, CANADA (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6348198	B1	20020219	
APPLICATION INFO.:	US 1999-371127		19990810	(9)

RELATED APPLN. INFO.: Division of Ser. No. US 1995-552232, filed on 2 Nov 1995, now patented, Pat. No. US 6048539

DOCUMENT TYPE: Utility

FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Graser, Jennifer E.
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 26
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 1 Drawing Page(s)
LINE COUNT: 1257
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB An isolated and purified lactoferrin receptor protein is isolated and purified from bacterial pathogens, including **Moraxella** and Neisseria, and has a molecular weight of between about 70,000 and about 90,000, as determined by SDS-PAGE. Such lactoferrin receptor protein may be provided in combination with a lactoferrin receptor protein from the bacterial pathogen of a molecular weight of about 100,000 to about 105,000 daltons. The lactoferrin receptor protein may be produced by providing a solubilized membrane preparation from the bacterial pathogen containing lactoferrin receptor proteins, non-lactoferrin receptor proteins and other contaminants, complexing the lactoferrin receptor proteins with lactoferrin and purifying the resulting complexes substantially free from the non-lactoferrin receptor proteins and the other contaminants, and separating the novel lactoferrin receptor protein from the complexes. The lactoferrin receptor protein is useful in diagnostic applications and immunogenic compositions, particularly for in vivo administration to a host to confer protection against disease caused by a bacterial pathogen that produces the lactoferrin receptor protein or produces a protein capable of inducing **antibodies** in a host specifically reactive with the lactoferrin receptor protein.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 12 OF 31 USPATFULL on STN
ACCESSION NUMBER: 2002:24053 USPATFULL
TITLE: Lactoferrin receptor protein
INVENTOR(S): **Schryvers, Anthony B.**, Calgary, CANADA
Bonnah, Robert A., Calgary, CANADA
PATENT ASSIGNEE(S): Aventis Pasteur Limited, Toronto, CANADA (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6344200	B1	20020205
APPLICATION INFO.:	US 1999-371126		19990810 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1995-552232, filed on 2 Nov 1995, now patented, Pat. No. US 6048539
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Graser, Jennifer E.
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 4
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 1 Drawing Page(s)
LINE COUNT: 1153
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB An isolated and purified lactoferrin receptor protein is isolated and purified from bacterial pathogens, including **Moraxella** and Neisseria, and has a molecular weight of between about 70,000 and about 90,000, as determined by SDS-PAGE. Such lactoferrin receptor protein may be provided in combination with a lactoferrin

receptor protein from the bacterial pathogen of a molecular weight of about 100,000 to about 105,000 daltons. The lactoferrin receptor protein may be produced by providing a solubilized membrane preparation from the bacterial pathogen containing lactoferrin receptor proteins, non-lactoferrin receptor proteins and other contaminants, complexing the lactoferrin receptor proteins with lactoferrin and purifying the resulting complexes substantially free from the non-lactoferrin receptor proteins and the other contaminants, and separating the novel lactoferrin receptor protein from the complexes. The lactoferrin receptor protein is useful in diagnostic applications and immunogenic compositions, particularly for in vivo administration to a host to confer protection against disease caused by a bacterial pathogen that produces the lactoferrin receptor protein or produces a protein capable of inducing **antibodies** in a host specifically reactive with the lactoferrin receptor protein.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 13 OF 31 USPATFULL on STN
ACCESSION NUMBER: 2001:112282 USPATFULL
TITLE: Transferrin receptor genes
INVENTOR(S): Loosmore, Sheena, Aurora, Canada
Harkness, Robin, Willowdale, Canada
Schryvers, Anthony, Calgary, Canada
Chong, Pele, Richmond Hill, Canada
Gray-Owen, Scott, Calgary, Canada
Yang, Yan-Ping, Willowdale, Canada
Murdin, Andrew, Newmarket, Canada
Klein, Michel, Willowdale, Canada
PATENT ASSIGNEE(S): Connaught Laboratories Limited, North York, Canada (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6262016	B1	20010717
APPLICATION INFO.:	US 1997-897438		19970721 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1995-483577, filed on 7 Jun 1995, now patented, Pat. No. US 6015688 Continuation-in-part of Ser. No. US 1994-337483, filed on 8 Nov 1994, now patented, Pat. No. US 5922562 Continuation-in-part of Ser. No. US 1993-175116, filed on 29 Dec 1993, now abandoned Continuation-in-part of Ser. No. US 1993-148968, filed on 8 Nov 1993, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Mertz, Prema
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 4
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 148 Drawing Figure(s); 144 Drawing Page(s)
LINE COUNT: 2479
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Purified and isolated nucleic acid is provided which encodes a transferrin receptor protein of a strain of Haemophilus or a fragment or an analog of the transferrin receptor protein. The nucleic acid sequence may be used to produce peptides free of contaminants derived from bacteria normally containing the **Tbp1** or **Tbp2** proteins for purposes of diagnostics

and medical treatment. Furthermore, the nucleic acid molecule may be used in the diagnosis of infection. Also provided are recombinant **Tbp1** or **Tbp2** and methods for purification of the same. Live vectors expressing epitopes of transferrin receptor protein for vaccination are provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 14 OF 31 USPATFULL on STN
ACCESSION NUMBER: 2001:48215 USPATFULL
TITLE: Lactoferrin receptor protein
INVENTOR(S): **Schryvers, Anthony B.**, Calgary, Canada
Bonnah, Robert A., Calgary, Canada
PATENT ASSIGNEE(S): Connaught Laboratories Limited, Toronto, Canada (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6211343	B1	20010403
APPLICATION INFO.:	US 1999-370869		19990810 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1995-552232, filed on 2 Nov 1995, now patented, Pat. No. US 6048539
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Graser, Jennifer
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 6
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 1 Drawing Page(s)
LINE COUNT: 1206
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB An isolated and purified lactoferrin receptor protein is isolated and purified from bacterial pathogens, including **Moraxella** and Neisseria, and has a molecular weight of between about 70,000 and about 90,000, as determined by SDS-PAGE. Such lactoferrin receptor protein may be provided in combination with a lactoferrin receptor protein from the bacterial pathogen of a molecular weight of about 100,000 to about 105,000 daltons. The lactoferrin receptor protein may be produced by providing a solubilized membrane preparation from the bacterial pathogen containing lactoferrin receptor proteins, non-lactoferrin receptor proteins and other contaminants, complexing the lactoferrin receptor proteins with lactoferrin and purifying the resulting complexes substantially free from the non-lactoferrin receptor proteins and the other contaminants, and separating the novel lactoferrin receptor protein from the complexes. The lactoferrin receptor protein is useful in diagnostic applications and immunogenic compositions, particularly for in vivo administration to a host to confer protection against disease caused by a bacterial pathogen that produces the lactoferrin receptor protein or produces a protein capable of inducing **antibodies** in a host specifically reactive with the lactoferrin receptor protein.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 15 OF 31 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN
DUPLICATE 3
ACCESSION NUMBER: 2000-181144 [16] WPIDS
CROSS REFERENCE: 1995-194089 [25]; 1997-052329 [05]; 1998-100410 [09]; 1999-404437 [34]; 1999-404459 [34]; 1999-404487 [34];

2000-096387 [08]
DOC. NO. CPI: C2000-056516
TITLE: New nucleic acid encoding truncated transferrin receptor, useful for diagnosis, treatment and prevention of bacterial infections, particularly by Haemophilus.
DERWENT CLASS: B04 D16
INVENTOR(S): CHONG, P; GRAY-OWEN, S; HARKNESS, R; KLEIN, M; LOOSMORE, S; MURDIN, A; **SCHRYVERS, A**; YANG, Y
PATENT ASSIGNEE(S): (CONN-N) CONNAUGHT LAB LTD
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 6015688	A	20000118	(200016)*		281

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
US 6015688	A	CIP of	US 1993-148968	19931108
		CIP of	US 1993-175116	19931229
		Cont of	US 1994-337483	19941108
			US 1995-483577	19950607

PRIORITY APPLN. INFO: US 1994-337483 19941108; US 1993-148968 19931108; US 1993-175116 19931229; US 1995-483577 19950607
AN 2000-181144 [16] WPIDS
CR 1995-194089 [25]; 1997-052329 [05]; 1998-100410 [09]; 1999-404437 [34]; 1999-404459 [34]; 1999-404487 [34]; 2000-096387 [08]
AB US 6015688 A UPAB: 20000925
NOVELTY - Isolated and purified nucleic acid (I) encoding an immunogenic, C-terminally truncated analog of one of the transferrin receptor proteins **Tbp1** or **Tbp2** of Haemophilus, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) isolated and purified nucleic acid (Ia) encoding only a C-terminally truncated **Tbp2** protein (II) of Haemophilus;

(2) expression vector for expressing (II), containing (Ia) and expression control elements; and

(3) recombinant production of (II) by expressing the vector of (2) in a host cell.

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - Vaccine.

USE - (I) are used for recombinant production of truncated Tbp; as probes and primers for detecting, and diagnosing infection by, Haemophilus, also for isolating similar sequences from other bacteria; as immunogens for vaccinating against infections caused by bacteria that produce transferrin receptors, e.g. Haemophilus, Neisseria or **Branhamella**. The truncated proteins are useful as immunogens (as above); for diagnosing infection (as antigens in immunoassays) and for raising **antibodies**, used for diagnosis of infections or for passive immunization.

Dwg.0/32

L33 ANSWER 16 OF 31 USPATFULL on STN
ACCESSION NUMBER: 2000:91731 USPATFULL
TITLE: DNA encoding a transferrin receptor of **Moraxella**
INVENTOR(S): Myers, Lisa E., Guelph, Canada
Schryvers, Anthony B., Calgary, Canada
Harkness, Robin E., Willowdale, Canada
Loosmore, Sheena M., Aurora, Canada
Du, Run-Pan, Thornhill, Canada
Yang, Yan-Ping, Willowdale, Canada
Klein, Michel H., Willowdale, Canada
PATENT ASSIGNEE(S): Connaught Laboratories Limited, North York, Canada (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6090576		20000718	
APPLICATION INFO.:	US 1996-613009		19960308	(8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Hutzell, Paula K.
ASSISTANT EXAMINER: Pak, Michael
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 11
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 57 Drawing Figure(s); 57 Drawing Page(s)
LINE COUNT: 3127
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Purified and isolated nucleic acid molecules are provided which encode transferrin receptor proteins of **Moraxella**, such as M. catarrhalis or a fragment or an analog of the transferrin receptor protein. The nucleic acid sequence may be used to produce recombinant transferrin receptor proteins **Tbp1** and **Tbp2** of the strain of **Moraxella** free of other proteins of the **Moraxella** strain for purposes of diagnostics and medical treatment. Furthermore, the nucleic acid molecule may be used in the diagnosis of infection.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 17 OF 31 USPATFULL on STN
ACCESSION NUMBER: 2000:57354 USPATFULL
TITLE: Vaccine for conferring bacterial immunity containing lactoferrin receptor protein
INVENTOR(S): **Schryvers, Anthony B.**, Calgary, Canada
PATENT ASSIGNEE(S): University Technologies International, Inc., Calgary, Canada (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6060058		20000509	
APPLICATION INFO.:	US 1995-483881		19950607	(8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1994-207719, filed on 9 Mar 1994, now abandoned which is a continuation of Ser. No. US 1992-851005, filed on 12 Mar 1992, now abandoned which is a division of Ser. No. US 1991-639365, filed on 10 Jan 1991, now patented, Pat. No. US 5141743 which is a continuation of Ser. No. US 1989-344356, filed on 27 Apr 1989, now

abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Minnifield, Nita
LEGAL REPRESENTATIVE: Burns, Doane, Swecker & Mathis, L.L.P.
NUMBER OF CLAIMS: 20
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 1 Drawing Figure(s); 1 Drawing Page(s)
LINE COUNT: 821
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A vaccine which provides protective immunity against a bacterial pathogen containing a purified lactoferrin receptor protein is provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 18 OF 31 USPATFULL on STN
ACCESSION NUMBER: 2000:43780 USPATFULL
TITLE: Lactoferrin receptor protein
INVENTOR(S): **Schryvers, Anthony B.**, Calgary, Canada
Bonnah, Robert A., Calgary, Canada
PATENT ASSIGNEE(S): Connaught Laboratories Limited, North York, Canada (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6048539		20000411	
APPLICATION INFO.:	US 1995-552232		19951102	(8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Chin, Christopher L.
ASSISTANT EXAMINER: Graser, Jennifer
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 5
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 1 Drawing Page(s)
LINE COUNT: 1328
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB An isolated and purified lactoferrin receptor protein is isolated and purified from bacterial pathogens, including **Moraxella** and Neisseria, and has a molecular weight of between about 70,000 and about 90,000, as determined by SDS-PAGE. Such lactoferrin receptor protein may be provided in combination with a lactoferrin receptor protein from the bacterial pathogen of a molecular weight of about 100,000 to about 105,000 daltons. The lactoferrin receptor protein may be produced by providing a solubilized membrane preparation from the bacterial pathogen containing lactoferrin receptor proteins, non-lactoferrin receptor proteins and other contaminants, complexing the lactoferrin receptor proteins with lactoferrin and purifying the resulting complexes substantially free from the non-lactoferrin receptor proteins and the other contaminants, and separating the novel lactoferrin receptor protein from the complexes. The lactoferrin receptor protein is useful in diagnostic applications and immunogenic compositions, particularly for in vivo administration to a host to confer protection against disease caused by a bacterial pathogen that produces the lactoferrin receptor protein or produces a protein capable of inducing **antibodies** in a host specifically reactive with the lactoferrin receptor protein.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 19 OF 31 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 1999-620376 [53] WPIDS
CROSS REFERENCE: 1997-457533 [42]
DOC. NO. CPI: C1999-181129
TITLE: Nucleic acid encoding **transferrin binding protein 2** of **Moraxella** catarrhalis, useful for diagnostics, immunization and recombinant protein production.
DERWENT CLASS: B04 D16
INVENTOR(S): DU, R; HARKNESS, R E; KLEIN, M H; LOOSMORE, S M; MYERS, L E; **SCHRYVERS, A B**; YANG, Y
PATENT ASSIGNEE(S): (CONN-N) CONNAUGHT LAB LTD; (AVET) AVENTIS PASTEUR LTD
COUNTRY COUNT: 83
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9952947	A2	19991021	(199953)*	EN	113
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW					
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW					
AU 9931350	A	19991101	(200013)		
EP 1071715	A2	20010131	(200108)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
BR 9909576	A	20011016	(200170)		
JP 2002511490	W	20020416	(200242)		122
US 6440701	B1	20020827	(200259)		
AU 761008	B	20030529	(200346)		
NZ 507978	A	20030725	(200357)		
MX 2000010026	A1	20050301	(200568)		

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 9952947	A2		WO 1999-CA307	19990412
AU 9931350	A		AU 1999-31350	19990412
EP 1071715	A2		EP 1999-913049	19990412
			WO 1999-CA307	19990412
BR 9909576	A		BR 1999-9576	19990412
			WO 1999-CA307	19990412
JP 2002511490	W		WO 1999-CA307	19990412
			JP 2000-543503	19990412
US 6440701	B1	CIP of	US 1996-613009	19960308
		CIP of	US 1997-778570	19970103
		CIP of	WO 1997-CA163	19970307
			US 1998-59584	19980414
AU 761008	B		AU 1999-31350	19990412
NZ 507978	A		NZ 1999-507978	19990412
			WO 1999-CA307	19990412
MX 2000010026	A1		WO 1999-CA307	19990412
			MX 2000-10026	20001013

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9931350	A	Based on	WO 9952947
EP 1071715	A2	Based on	WO 9952947
BR 9909576	A	Based on	WO 9952947
JP 2002511490	W	Based on	WO 9952947
AU 761008	B	Previous Publ.	AU 9931350
		Based on	WO 9952947
NZ 507978	A	Based on	WO 9952947
MX 2000010026	A1	Based on	WO 9952947

PRIORITY APPLN. INFO: US 1998-59584 19980414; US
1996-613009 19960308; US
1997-778570 19970103; WO
1997-CA163 19970307

AN 1999-620376 [53] WPIDS
CR 1997-457533 [42]
AB WO 9952947 A UPAB: 20051024
NOVELTY - Purified, isolated nucleic acid (I) encoding a **transferrin binding protein** (**Tbp2**) (II) from **Moraxella** catarrhalis strains M35, 3 or LES1, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) vectors containing (I);
(b) transformed host cells containing the vector of (a);
(c) recombinant production of (II);
(d) recombinant (II) produced this way;
(e) an immunogenic composition containing (I) or recombinant (II) plus a carrier;
(f) a method for detecting **Moraxella** nucleic acid that encodes transferrin receptor protein by the formation of a hybrid with (I); and
(g) diagnostic kits for the method of (f).

ACTIVITY - Antibacterial; cytostatic; auditory.

MECHANISM OF ACTION - Tbp binding blocker.

(I) and (II) generate an immune response that includes anti-Tbp **antibodies** and opsonizing and/or bactericidal **antibodies**. By blocking binding to Tbp, the **antibodies** stop the bacterium from acquiring essential iron.

USE - (I) is used to produce recombinant (II); for identification or diagnosis of **Moraxella**, or for cloning related species, using hybridization assays; and for genetic immunization against **Moraxella** infections, e.g. otitis media. (II) are useful as antigens, either in vaccines (including components of conjugate vaccines that contain antigens from other bacteria or from tumors, in which case they elicit production of antitumor **antibodies** that may be coupled to chemotherapeutic agents or biologically active agents) or to raise **antibodies** (for use as diagnostic reagents and for treating **Moraxella** infections), also for detecting **Moraxella antibodies**.
Dwg.0/9

L33 ANSWER 20 OF 31 USPATFULL on STN
ACCESSION NUMBER: 1999:170718 USPATFULL
TITLE: Transferrin receptor **antibodies**
INVENTOR(S): Loosmore, Sheena, Aurora, Canada

Harkness, Robin, Willowdale, Canada
Schryvers, Anthony, Calgary, Canada
Chong, Pele, Richmond Hill, Canada
Gray-Owen, Scott, Calgary, Canada
Yang, Yan-Ping, Willowdale, Canada
Murdin, Andrew, Newmarket, Canada
Klein, Michel, Willowdale, Canada

PATENT ASSIGNEE(S): Connaught Laboratories Limited, North York, Canada (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6008326		19991228
APPLICATION INFO.:	US 1995-474671		19950607 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1995-337483, filed on 8 Nov 1995 which is a continuation-in-part of Ser. No. US 1993-175116, filed on 29 Dec 1993, now abandoned which is a continuation-in-part of Ser. No. US 1993-148968, filed on 8 Nov 1993, now abandoned

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Mosher, Mary E.
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 6
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 35 Drawing Figure(s); 140 Drawing Page(s)
LINE COUNT: 7547
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Isolated and purified antiserum or **antibody** specific for an immunogenic material is provided. Such immunogenic material may comprise purified and isolated transferrin receptor protein of a strain of Haemophilus or a fragment or an analog of the transferrin receptor protein, recombinant **Tbp1** or **Tbp2** proteins and isolated and purified **Tbp1** and **Tbp2** proteins, and synthetic peptides.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 21 OF 31 USPATFULL on STN
ACCESSION NUMBER: 1999:78846 USPATFULL
TITLE: Recombinantly produced transferrin receptor of haemophilus
INVENTOR(S): Loosmore, Sheena, Aurora, Canada
Harkness, Robin, Willowdale, Canada
Schryvers, Anthony, Calgary, Canada
Chong, Pele, Richmond Hill, Canada
Gray-Owen, Scott, Calgary, Canada
Yang, Yan-Ping, Willowdale, Canada
Murdin, Andrew, Newmarket, Canada
Klein, Michel, Willowdale, Canada
PATENT ASSIGNEE(S): Connaught Laboratories Limited, North York, Canada (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5922841		19990713
APPLICATION INFO.:	US 1995-478373		19950607 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1994-337483, filed on 8 Nov 1994 which is a continuation-in-part of Ser.

No. US 1993-175116, filed on 29 Dec 1993, now abandoned which is a continuation-in-part of Ser. No. US 1993-148968, filed on 8 Nov 1993, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: LeGuyader, John L.
ASSISTANT EXAMINER: Wang, Andrew
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 18
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 145 Drawing Figure(s); 141 Drawing Page(s)
LINE COUNT: 6316
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Purified and isolated nucleic acid is provided which encodes a transferrin receptor protein of a strain of Haemophilus or a fragment or an analog of the transferrin receptor protein. The nucleic acid sequence may be used to produce peptides free of contaminants derived from bacteria normally containing the **Tbp1** or **Tbp2** proteins for purposes of diagnostics and medical treatment. Furthermore, the nucleic acid molecule may be used in the diagnosis of infection. Also provided are recombinant **Tbp1** or **Tbp2** and methods for purification of the same. Live vectors expressing epitopes of transferrin receptor protein for vaccination are provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 22 OF 31 USPATFULL on STN
ACCESSION NUMBER: 1999:78567 USPATFULL
TITLE: Nucleic acids encoding transferrin receptors
INVENTOR(S): Loosmore, Sheena, Aurora, Canada
Harkness, Robin, Willowdale, Canada
Schryvers, Anthony, Calgary, Canada
Chong, Pele, Richmond Hill, Canada
Gray-Owen, Scott, Calgary, Canada
Yang, Yan-Ping, Willowdale, Canada
Murdin, Andrew, Newmarket, Canada
Klein, Michel, Willowdale, Canada
PATENT ASSIGNEE(S): Connaught Laboratories Limited, North York, Canada (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5922562		19990713
APPLICATION INFO.:	US 1994-337483		19941108 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1993-175116, filed on 29 Dec 1993, now abandoned which is a continuation-in-part of Ser. No. US 1993-148968, filed on 8 Nov 1993, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Walsh, Stephen
ASSISTANT EXAMINER: Teng, Sally P.
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 21
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 145 Drawing Figure(s); 141 Drawing Page(s)
LINE COUNT: 6348
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Purified and isolated nucleic acid is provided which encodes a transferrin receptor protein of a strain of Haemophilus or a fragment or an analog of the transferrin receptor protein. The nucleic acid sequence may be used to produce peptides free of contaminants derived from bacteria normally containing the **Tbp1** or **Tbp2** proteins for purposes of diagnostics and medical treatment. Furthermore, the nucleic acid molecule may be used in the diagnosis of infection. Also provided are recombinant **Tbp1** or **Tbp2** and methods for purification of the same. Live vectors expressing epitopes of transferrin receptor protein for vaccination are provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 23 OF 31 USPATFULL on STN

ACCESSION NUMBER:	1999:78330 USPATFULL
TITLE:	Transferrin receptor genes and immunogenic compositions derived therefrom
INVENTOR(S):	Loosmore, Sheena, Aurora, Canada Harkness, Robin, Willowdale, Canada **Schryvers, Anthony**, Calgary, Canada Chong, Pele, Richmond Hill, Canada Gray-Owen, Scott, Calgary, Canada Yang, Yan-Ping, Willowdale, Canada Murdin, Andrew, Newmarket, Canada Klein, Michel, Willowdale, Canada
PATENT ASSIGNEE(S):	Connaught Laboratories Limited, North York, Canada (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5922323		19990713
APPLICATION INFO.:	US 1995-478435		19950607 (8)

RELATED APPLN. INFO.:	Continuation of Ser. No. US 1994-337483, filed on 8 Nov 1994 which is a continuation-in-part of Ser. No. US 1993-175116, filed on 29 Dec 1993, now abandoned which is a continuation-in-part of Ser. No. US 1993-148968, filed on 8 Nov 1993, now abandoned
DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Degen, Nancy
ASSISTANT EXAMINER:	Latimer, Matthew
LEGAL REPRESENTATIVE:	Sim & McBurney
NUMBER OF CLAIMS:	4
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	148 Drawing Figure(s); 141 Drawing Page(s)
LINE COUNT:	6217

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Purified and isolated nucleic acid is provided which encodes a transferrin receptor protein of a strain of Haemophilus or a fragment or an analog of the transferrin receptor protein. The nucleic acid sequence may be used to produce peptides free of contaminants derived from bacteria normally containing the **Tbp1** or **Tbp2** proteins for purposes of diagnostics and medical treatment. Furthermore, the nucleic acid molecule may be used in the diagnosis of infection. Also provided are recombinant **Tbp1** or **Tbp2** and methods for purification of the same. Live vectors expressing epitopes of transferrin receptor protein for vaccination are provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 24 OF 31 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 4
ACCESSION NUMBER: 1999:486606 HCAPLUS
DOCUMENT NUMBER: 131:256042
TITLE: Analysis of the immunological responses to transferrin and lactoferrin receptor proteins from **Moraxella** catarrhalis
AUTHOR(S): Yu, Rong-Hua; Bonnah, Robert A.; Ainsworth, Samuel; **Schryvers, Anthony B.**
CORPORATE SOURCE: Department of Microbiology and Infectious Diseases, University of Calgary, Calgary, AB, T2N 4N1, Can.
SOURCE: Infection and Immunity (1999), 67(8), 3793-3799
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB **Moraxella** catarrhalis expresses surface receptor proteins that specifically bind host transferrin (Tf) and lactoferrin (Lf) in the first step of the iron acquisition pathway. Acute- and convalescent-phase antisera from a series of patients with M. catarrhalis pulmonary infections were tested against Tf and Lf receptor proteins purified from the corresponding isolates. After the purified proteins had been separated by SDS-PAGE and Western blotting, the authors observed strong reactivity against **Tf-binding protein** B (**TbpB**; also called OMP1) and Lf-binding protein B (LbpB) but little or no reactivity against **Tf-binding protein** A (**TbpA**) or Lf-binding protein A (LbpA), using the convalescent-phase antisera. Considerable antigenic heterogeneity was observed when **TbpBs** and LbpBs isolated from different strains were tested with the convalescent-phase antisera. Comparison to the reactivity against electroblotted total cellular proteins revealed that the immune response against LbpB and **TbpB** constitutes a significant portion of the total detectable immune response to M. catarrhalis proteins. Prepns. of affinity-isolated **TbpA** and LbpA reacted with convalescent-phase antisera in a solid-phase binding assay, but blocking with soluble **TbpB**, soluble LbpB, or exts. from an LbpA- mutant demonstrated that this reactivity was attributed to contaminants in the **TbpA** and LbpA prepns. These studies demonstrate the immunogenicity of M. catarrhalis **TbpB** and LbpB in humans and support their potential as vaccine candidates.
REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L33 ANSWER 25 OF 31 USPATFULL on STN
ACCESSION NUMBER: 1998:4747 USPATFULL
TITLE: Method for producing purified recombinant Haemophilus influenzae **transferrin binding proteins**
INVENTOR(S): Loosmore, Sheena, Aurora, Canada
Harkness, Robin, Willowdale, Canada
Schryvers, Anthony, Calgary, Canada
Chong, Pele, Richmond Hill, Canada
Gray-Owen, Scott, Calgary, Canada
Yang, Yan-Ping, Willowdale, Canada
Murdin, Andrew, Newmarket, Canada

	Klein, Michel, Willowdale, Canada
PATENT ASSIGNEE(S):	Connaught Laboratories Limited, North York, Canada (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5708149		19980113
APPLICATION INFO.:	US 1995-487890		19950607 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1994-337483, filed on 8 Nov 1994 which is a continuation-in-part of Ser. No. US 1993-175116, filed on 29 Dec 1993, now abandoned which is a continuation-in-part of Ser. No. US 1993-148968, filed on 8 Nov 1993, now abandoned

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Degen, Nancy
ASSISTANT EXAMINER: Latimer, Matthew
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 5
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 145 Drawing Figure(s); 141 Drawing Page(s)
LINE COUNT: 2824
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Purified and isolated nucleic acid is provided which encodes a transferrin receptor protein of a strain of Haemophilus or a fragment or an analog of the transferrin receptor protein. The nucleic acid sequence may be used to produce peptides free of contaminants derived from bacteria normally containing the **Tbp1** or **Tbp2** proteins for purposes of diagnostics and medical treatment. Furthermore, the nucleic acid molecule may be used in the diagnosis of infection. Also provided are recombinant **Tbp1** or **Tbp2** and methods for purification of the same. Live vectors expressing epitopes of transferrin receptor protein for vaccination are provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 26 OF 31 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 5

ACCESSION NUMBER:	1998:574816 HCAPLUS
DOCUMENT NUMBER:	129:313152
TITLE:	The **transferrin binding protein B** of **Moraxella** catarrhalis elicits bactericidal **antibodies** and is a potential vaccine antigen
AUTHOR(S):	Myers, Lisa E.; Yang, Yan-Ping; Du, Run-Pan; Wang, Qijun; Harkness, Robin E.; **Schryvers, Anthony B.**; Klein, Michel H.; Loosmore, Sheena M.
CORPORATE SOURCE:	Pasteur Merieux Connaught Canada Research, North York, ON, M2R 3T4, Can.
SOURCE:	Infection and Immunity (1998), 66(9), 4183-4192 CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER:	American Society for Microbiology
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB The **transferrin binding protein** genes (**tbpA** and **tbpB**) from two strains of **Moraxella** catarrhalis have been cloned and sequenced. The genomic organization of the M. catarrhalis **transferrin binding**

protein genes is unique among known bacteria in that **tbpA** precedes **tbpB** and there is a third gene located between them. The deduced sequences of the M. catarrhalis **TbpA** proteins from two strains were 98% identical, while those of the **TbpB** proteins from the same strains were 63% identical and 70% similar. The third gene, tentatively called orf3, encodes a protein of approx. 58 kDa that is 98% identical between the two strains. The **tbpB** genes from four addnl. strains of M. catarrhalis were cloned and sequenced, and two potential families of **TbpB** proteins were identified based on sequence similarities. Recombinant **TbpA** (rTbpA), rTbpB, and rORF3 proteins were expressed in Escherichia coli and purified. RTbpB was shown to retain its ability to bind human transferrin after transfer to a membrane, but neither rTbpA nor rORF3 did. Monospecific anti-rTbpA and anti-rTbpB **antibodies** were generated and used for immunoblot anal., which demonstrated that epitopes of M. catarrhalis **TbpA** and **TbpB** were antigenically conserved and that there was constitutive expression of the tbp genes. In the absence of an appropriate animal model, anti-rTbpA and anti-rTbpB **antibodies** were tested for their bactericidal activities. The anti-rTbpA antiserum was not bactericidal, but anti-rTbpB antisera were found to kill heterologous strains within the same family. Thus, if bactericidal ability is clin. relevant, a vaccine comprising multiple rTbpB antigens may protect against M. catarrhalis disease.

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L33 ANSWER 27 OF 31 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 1998:571292 SCISEARCH
THE GENUINE ARTICLE: 103TJ
TITLE: Cloning and expression of the **Moraxella** catarrhalis lactoferrin receptor genes
AUTHOR: Du R P; Wang Q J; Yang Y P; **Schryvers A B**; Chong P; Klein M H; Loosmore S M (Reprint)
CORPORATE SOURCE: Pasteur Merieux Connaught Canada Res Ctr, 1755 Steeles Ave W, N York, ON M2R 3T4, Canada (Reprint); Pasteur Merieux Connaught Canada Res Ctr, N York, ON M2R 3T4, Canada; Univ Calgary, Dept Microbiol & Infect Dis, Calgary, AB T2N 4N1, Canada
COUNTRY OF AUTHOR: Canada
SOURCE: INFECTION AND IMMUNITY, (AUG 1998) Vol. 66, No. 8, pp. 3656-3665.
ISSN: 0019-9567.
PUBLISHER: AMER SOC MICROBIOLOGY, 1752 N ST NW, WASHINGTON, DC 20036-2904 USA.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 40
ENTRY DATE: Entered STN: 1998
Last Updated on STN: 1998

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The lactoferrin receptor genes from two strains of **Moraxella** catarrhalis have been cloned and sequenced. The lfr genes are arranged as lbpB followed by lbpA, a gene arrangement found in lactoferrin and transferrin receptor operons from several bacterial species. In addition, a third open reading frame, orf3, is located one nucleotide downstream of lbpA. The deduced lactoferrin binding protein A (LbpA) sequences from the two strains were found to be 99%

identical, the LbpB sequences were 92% identical, and the ORF3 proteins were 98% identical. The lbpB gene was PCR amplified and sequenced from a third strain of M. catarrhalis, and the encoded protein was found to be 77% identical and 84% similar to the other LbpB proteins. Recombinant LbpA and LbpB proteins were expressed from Escherichia coil, and antisera raised to the purified proteins were used to assess antigenic conservation in a panel of M. catarrhalis strains. The recombinant proteins were tested for the ability to bind human lactoferrin following gel electrophoresis and electroblotting, and rLbpB, but not rLbpA, was found to bind lactoferrin. Bactericidal **antibody** activity was measured, and while the anti-rLbpA antiserum was not bactericidal, the anti-rLbpB antisera were found to be weakly bactericidal. Thus, LbpB may have potential as a vaccine candidate.

L33 ANSWER 28 OF 31 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 6
ACCESSION NUMBER: 1998:213232 HCAPLUS
DOCUMENT NUMBER: 128:306022
TITLE: Biochemical and immunological properties of lactoferrin binding proteins from **Moraxella (Branhamella)** catarrhalis
AUTHOR(S): Bonnah, Robert A.; Yu, Rong-Hua; Wong, Henry; **Schryvers, Anthony B.**
CORPORATE SOURCE: Department of Microbiology and Infectious Diseases, University of Calgary, Calgary, AB, T2N 4N1, Can.
SOURCE: Microbial Pathogenesis (1998), 24(2), 89-100
CODEN: MIPAEV; ISSN: 0882-4010
PUBLISHER: Academic Press Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The Neisseriaceae can acquire iron (Fe) from lactoferrin (Lf) using host-Lf receptors on the bacterial surface. The binding proteins that are proposed to constitute the receptor have been identified by isolation with immobilized Lf. Using CopB-specific monoclonal **antibodies** and isogenic CopB mutants, we demonstrate that the 84-kDa protein isolated with immobilized human Lf from **Moraxella** catarrhalis using low stringency conditions is CopB, an 84 kDa membrane-spanning protein with similarities to other TonB-dependent outer membrane proteins. Affinity isolation of Lf receptors from a variety of M. catarrhalis strains using high stringency conditions revealed a 95 kDa protein migrating slightly faster than LbpA on SDS-PAGE in some strains. Convalescent human antisera from patients infected with M. catarrhalis reacted specifically with this protein, but not LbpA. Proteolysis expts. demonstrated that, unlike LbpA, it was rapidly degraded. The 95 kDa protein, but not LbpA, binds labeled Lf after SDS-PAGE and electroblotting, suggesting the 95 kDa protein is LbpB, the homolog of **TbpB.** This protein comigrates with LbpA in most strains, which may explain why it had not been previously identified.
REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L33 ANSWER 29 OF 31 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 1997:902500 SCISEARCH
THE GENUINE ARTICLE: YK218
TITLE: Characterisation of an outer membrane protein of

Moraxella catarrhalis

AUTHOR: Mathers K E (Reprint); Goldblatt D; Aebi C; Yu R H; **Schryvers A B**; Hansen E J

CORPORATE SOURCE: INST CHILD HLTH, IMMUNOBIOL UNIT, LONDON WC1N 1EH, ENGLAND; UNIV TEXAS, SW MED CTR, DEPT MICROBIOL, DALLAS, TX 75235; UNIV CALGARY, DEPT MICROBIOL & INFECT DIS, CALGARY, AB T2N 4N1, CANADA

COUNTRY OF AUTHOR: ENGLAND; USA; CANADA

SOURCE: FEMS IMMUNOLOGY AND MEDICAL MICROBIOLOGY, (NOV 1997) Vol. 19, No. 3, pp. 231-236.
ISSN: 0928-8244.

PUBLISHER: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS.

DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 22
ENTRY DATE: Entered STN: 1997
Last Updated on STN: 1997

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB To elucidate potential vaccine antigens, **Moraxella** catarrhalis outer membrane proteins (OMPs) were studied. We have previously shown an OMP to be a target for human IgG and have now further characterised this OMP which appears to have a molecular mass of 84 kDa and to be distinct from the 81-kDa OMP, CopB. Human transferrin was shown to bind the 84-kDa OMP alone. N-terminal sequencing of this OMP and purified M. catarrhalis **transferrin binding protein B** (**TbpB**) revealed homology both with each other and with the **TbpB** of Haemophilus influence and Neisseria meningitidis. Adsorption of human anti-serum with purified **TbpB** from two M. catarrhalis strains abolished or reduced binding of IgG to the 84-kDa OMP from three M. catarrhalis isolates. Ige binding to CopB was unaffected. It is clear that the 84-kDa OMP is distinct from CopB and is a likely homologue of **TbpB**.

L33 ANSWER 30 OF 31 USPATFULL on STN

ACCESSION NUMBER: 94:20301 USPATFULL

TITLE: Method for isolating and purifying transferrin and lactoferrin receptor proteins from bacteria and the preparation of vaccines containing the same

INVENTOR(S): **Schryvers, Anthony B.**, Calgary, Canada

PATENT ASSIGNEE(S): The Board of Governors of the University, Alberta, Canada (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5292869		19940308
APPLICATION INFO.:	US 1990-507481		19900411 (7)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1989-344356, filed on 27 Apr 1989, now abandoned

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Schain, Howard E.
ASSISTANT EXAMINER: Touzeau, P. Lynn
LEGAL REPRESENTATIVE: Burns, Doane, Swecker & Mathis
NUMBER OF CLAIMS: 4
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 1 Drawing Figure(s); 1 Drawing Page(s)
LINE COUNT: 750

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a method for isolating and purifying transferrin and lactoferrin receptor proteins from bacterial pathogens by affinity chromatography and to the preparation of vaccine antigens containing the purified receptor proteins.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 31 OF 31 USPATFULL on STN

ACCESSION NUMBER:	92:70132 USPATFULL
TITLE:	Method for isolating and purifying transferrin and lactoferrin receptor proteins and vaccines containing the same
INVENTOR(S):	**Schryvers, Anthony B.**, Calgary, Canada
PATENT ASSIGNEE(S):	University Technologies International, Inc., Calgary, Canada (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5141743		19920825
APPLICATION INFO.:	US 1991-639365		19910110 (7)

RELATED APPLN. INFO.:	Continuation of Ser. No. US 1989-344356, filed on 27 Apr 1989, now abandoned
DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Wax, Robert A.
ASSISTANT EXAMINER:	Furman, Keith C.
LEGAL REPRESENTATIVE:	Burns, Doane, Swecker and Mathis
NUMBER OF CLAIMS:	15
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	1 Drawing Figure(s); 1 Drawing Page(s)
LINE COUNT:	733

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a method for isolating and purifying transferrin and lactoferrin receptor proteins from bacterial pathogens by affinity chromatography and to vaccine antigens containing the purified receptor proteins.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

FILE 'HOME' ENTERED AT 16:22:23 ON 18 MAY 2006

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     (FILE 'HOME' ENTERED AT 15:42:43 ON 18 MAY 2006)
               DEL HIS Y
               D COST

     FILE 'REGISTRY' ENTERED AT 15:51:37 ON 18 MAY 2006
               E TRANSFERRIN BINDING PROTEIN A/CN 5
L1             1 SEA ABB=ON  PLU=ON  "TRANSFERRIN BINDING PROTEIN B
                 (NEISSERIA MENINGITIDIS STRAIN Z2491 (ALLELE 1) GENE TBPB
                 ALLELE 1 FRAGMENT)"/CN
                 E TRANSFERRIN BINDING PROTEIN 1/CN 5
L2             6 SEA ABB=ON  PLU=ON  ("TRANSFERRIN BINDING PROTEIN 1
                 (NEISSERIA MENINGITIDIS STRAIN B16B6 CLONE PBMT1 GENE TBP1
                 PRECURSOR)"/CN OR "TRANSFERRIN BINDING PROTEIN 1 (NEISSERIA
                  MENINGITIDIS STRAIN M982 CLONE PTG3720 GENE TBP1 PRECURSOR
                 )"/CN OR "TRANSFERRIN BINDING PROTEIN 2 (NEISSERIA
                 MENINGITIDIS STRAIN B16B6 CLONE PBMT1 GENE TBP2 PRECURSOR)"
                 /CN OR "TRANSFERRIN BINDING PROTEIN 2 (NEISSERIA MENINGITID
                 IS STRAIN M982 CLONE PTG3720 GENE TBP2 PRECURSOR)"/CN OR
                 "TRANSFERRIN BINDING PROTEIN A PRECURSOR (NEISSERIA
                 MENINGITIDIS STRAIN Z2491 GENE TBPA)"/CN OR "TRANSFERRIN
                 BINDING PROTEIN B (NEISSERIA MENINGITIDIS STRAIN Z2491
                 (ALLELE 1) GENE TBPB ALLELE 1 FRAGMENT)"/CN)
                 E "TRANSFERRIN-BINDING PROTEIN A"/CN 5
L3            19 SEA ABB=ON  PLU=ON  ("TRANSFERRIN-BINDING PROTEIN A
                 (ACTINOBACILLUS SUIS STRAIN C84 GENE TBPA PRECURSOR)"/CN
                 OR "TRANSFERRIN-BINDING PROTEIN A (ACTINOBACILLUS SUIS
                 STRAIN SO4 GENE TBPA PRECURSOR)"/CN OR "TRANSFERRIN-BINDING
                  PROTEIN A (MORAXELLA CATARRHALIS STRAIN 4223 GENE
                 TBPA)"/CN OR "TRANSFERRIN-BINDING PROTEIN A (MORAXELLA
                 CATARRHALIS STRAIN Q8 GENE TBPA)"/CN OR "TRANSFERRIN-BINDIN
                 G PROTEIN A (NEISSERIA MENINGITIDIS STRAIN K454 GENE
                 TBPA)"/CN OR "TRANSFERRIN-BINDING PROTEIN A (NEISSERIA
                 MENINGITIDIS STRAIN Z2491 GENE TBPA)"/CN OR "TRANSFERRIN-BI
                 NDING PROTEIN B (ACTINOBACILLUS SUIS STRAIN C84 GENE TBPB
                 PRECURSOR)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (ACTINOBAC
                 ILLUS SUIS STRAIN SO4 GENE TBPB PRECURSOR)"/CN OR "TRANSFER
                 RIN-BINDING PROTEIN B (MORAXELLA CATARRHALIS STRAIN 3 GENE
                 TBPB)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (MORAXELLA
                 CATARRHALIS STRAIN 4223 GENE TBPB)"/CN OR "TRANSFERRIN-BIND
                 ING PROTEIN B (MORAXELLA CATARRHALIS STRAIN LES-1 GENE
                 TBPB)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (MORAXELLA
                 CATARRHALIS STRAIN M35 GENE TBPB)"/CN OR "TRANSFERRIN-BINDI
                 NG PROTEIN B (MORAXELLA CATARRHALIS STRAIN Q8 GENE
                 TBPB)"/CN OR "TRANSFERRIN-BINDING PROTEIN B (MORAXELLA
                 CATARRHALIS STRAIN R1 GENE TBPB)"/CN OR "TRANSFERRIN-BINDIN
                 G PROTEIN B (NEISSERIA MENINGITIDIS CLONE PM153 OUTER
                 MEMBRANE-ASSOCIATED GENE TBPB)"/CN OR "TRANSFERRIN-BINDING
                 PROTEIN B (NEISSERIA MENINGITIDIS STRAIN B16B6)"/CN OR
                 "TRANSFERRIN-BINDING PROTEIN B (NEISSERIA MENINGITIDIS
                 STRAIN K454 GENE TBPB)"/CN OR "TRANSFERRIN-BINDING PROTEIN
                 B (NEISSERIA MENINGITIDIS STRAIN Z2491 GENE TBPB)"/CN OR
                 "TRANSFERRIN-BINDING PROTEIN B (PISCIRICKETTSIA SALMONIS
                 GENE TBPB)"/CN)
L4            24 SEA ABB=ON  PLU=ON  L1 OR L2 OR L3

     FILE 'REGISTRY' ENTERED AT 15:53:36 ON 18 MAY 2006

     FILE 'HCAPLUS' ENTERED AT 15:53:36 ON 18 MAY 2006
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L5          2768 SEA ABB=ON  PLU=ON  L4 OR (TBP OR TRANSFERRIN BIND?
                 PROTEIN)(2A)(1 OR 2 OR A OR B) OR TBPA OR TBPB OR TBP1 OR
                 TBP2
L6            36 SEA ABB=ON  PLU=ON  L5 AND (MORAXELLA OR BRANHAEMELLA OR
                 BRANHAMELLA)
L7            15 SEA ABB=ON  PLU=ON  L6 AND (ANTIBOD? OR MOAB OR MAB)
                 D QUE
                 D 1-15 .BEVSTR

     FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH,
     JICST-EPLUS, JAPIO' ENTERED AT 15:55:49 ON 18 MAY 2006
L8            51 SEA ABB=ON  PLU=ON  L7

     FILE 'HOME' ENTERED AT 15:58:54 ON 18 MAY 2006

     FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH,
     JICST-EPLUS, JAPIO' ENTERED AT 16:01:27 ON 18 MAY 2006
L9            25 DUP REM L8 (26 DUPLICATES REMOVED)
                 D 1-25 IBIB ABS

     FILE 'HCAPLUS' ENTERED AT 16:02:26 ON 18 MAY 2006
L10           24 SEA ABB=ON  PLU=ON  ((TF OR TRANSFERRIN)(W)BIND?(W)PROTEIN)
                  AND (MORAXELLA OR BRANHAEMELLA OR BRANHAMELLA)
L11           10 SEA ABB=ON  PLU=ON  L10 AND (MOAB OR MAB OR ANTIBOD?)
L12            0 SEA ABB=ON  PLU=ON  L11 NOT L7

     FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH,
     JICST-EPLUS, JAPIO' ENTERED AT 16:04:16 ON 18 MAY 2006
L13           35 SEA ABB=ON  PLU=ON  L11
L14            3 SEA ABB=ON  PLU=ON  L13 NOT L8
L15            3 DUP REM L14 (0 DUPLICATES REMOVED)
                 D 1-3 IBIB ABS

     FILE 'USPATFULL' ENTERED AT 16:05:17 ON 18 MAY 2006
                 D QUE L5
L16         2078 SEA ABB=ON  PLU=ON  L4 OR (TF OR TRANSFERRIN)(W)BIND?(W)PRO
                 TEIN OR TBP(2A)(1 OR 2 OR A OR B) OR TBPA OR TBPB OR TBP1
                 OR TBP2
                 D QUE
L*** DEL       798 S L16 AND (MOAB OR MAB OR ANTIBOD?)
L17           150 SEA ABB=ON  PLU=ON  L16(L)(MORAXELLA OR BRANHAEMELLA OR
                 BRANHAMELLA)
L18           147 SEA ABB=ON  PLU=ON  L17(L)(ANTIBOD? OR MOAB OR MAB)
L19           101 SEA ABB=ON  PLU=ON  L16(S)(MORAXELLA OR BRANHAEMELLA OR
                 BRANHAMELLA)
L20            38 SEA ABB=ON  PLU=ON  L19(S)(ANTIBOD? OR MOAB OR MAB)
L21            38 SEA ABB=ON  PLU=ON  L20(S)(VACCIN? OR IMMUNIZ? OR IMMUNIS?)

L22             9 SEA ABB=ON  PLU=ON  L21(S)(MENINGITIS OR PACHYMENINGITIS
                 OR OTITIS MEDIA)
                 D QUE
                 D 1-9 IBIB ABS

     FILE 'MEDLINE' ENTERED AT 16:13:31 ON 18 MAY 2006
                 E "TRANSFERRIN-BINDING PROTEINS"/CT 5
L23           297 SEA ABB=ON  PLU=ON  "TRANSFERRIN-BINDING PROTEINS"/CT
                 E MORAXELLA/CT 5
L24           923 SEA ABB=ON  PLU=ON  MORAXELLA/CT
L25             0 SEA ABB=ON  PLU=ON  L23 AND L24
                 E BACTERIA/CT 5
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L26        68790 SEA ABB=ON  PLU=ON  BACTERIA/CT
L27           12 SEA ABB=ON  PLU=ON  L23 AND L26
                 E ANTIBODIES/CT 5
L28        71275 SEA ABB=ON  PLU=ON  ANTIBODIES/CT
L29            0 SEA ABB=ON  PLU=ON  L27 AND L28
                 D QUE L25
                 D QUE L29

     FILE 'HCAPLUS, MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH,
     JICST-EPLUS, JAPIO, USPATFULL' ENTERED AT 16:16:22 ON 18 MAY 2006
L30          494 SEA ABB=ON  PLU=ON  "SCHRYVERS A"?/AU
L31          106 SEA ABB=ON  PLU=ON  L30 AND (L6 OR L10)
L32           43 SEA ABB=ON  PLU=ON  L31 AND (MOAB OR MAB OR ANTIBOD?)
L33           31 DUP REM L32 (12 DUPLICATES REMOVED)
                 D 1-31 IBIB ABS

     FILE 'HOME' ENTERED AT 16:22:23 ON 18 MAY 2006


     FILE REGISTRY
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     DICTIONARY FILE UPDATES:  17 MAY 2006  HIGHEST RN 884739-24-6

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     * effective March 20, 2005.  A new display format, IDERL, is now    *
     * available and contains the CA role and document type information. *
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     FILE HCAPLUS

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of this information, without the prior written consent of CAS, is
strictly prohibited.

FILE COVERS 1907 - 18 May 2006 VOL 144 ISS 21
FILE LAST UPDATED: 17 May 2006 (20060517/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE MEDLINE
FILE LAST UPDATED: 17 MAY 2006 (20060517/UP). FILE COVERS 1950 TO DA

On December 11, 2005, the 2006 MeSH terms were loaded.

The MEDLINE reload for 2006 is now (26 Feb.) available. For details on the 2006 reload, enter HELP RLOAD at an arrow prompt (=>).
See also:

http://www.nlm.nih.gov/mesh/
http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_med_data_changes.ht
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_2006_MeSH.html

OLDMEDLINE is covered back to 1950.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2006 vocabulary.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE BIOSIS
FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 17 May 2006 (20060517/ED)

FILE EMBASE
FILE COVERS 1974 TO 18 May 2006 (20060518/ED)

EMBASE has been reloaded. Enter HELP RLOAD for details.

EMBASE is now updated daily. SDI frequency remains weekly (default) and biweekly.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE WPIDS
FILE LAST UPDATED: 15 MAY 2006 <20060515/UP>
MOST RECENT DERWENT UPDATE: 200631 <200631/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE, PLEASE VISIT:

Searcher : Shears 571-272-2528

http://www.stn-international.de/training_center/patents/stn_guide.pdf

>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE
http://scientific.thomson.com/support/patents/coverage/latestupdates/

>>> PLEASE BE AWARE OF THE NEW IPC REFORM IN 2006, SEE
http://www.stn-international.de/stndatabases/details/ipc_reform.html a
http://scientific.thomson.com/media/scpdf/ipcrdwpi.pdf <<<

FILE CONFSCI
FILE COVERS 1973 TO 10 Apr 2006 (20060410/ED)

CSA has resumed updates, see NEWS FILE

FILE SCISEARCH

FILE COVERS 1974 TO 11 May 2006 (20060511/ED)

SCISEARCH has been reloaded, see HELP RLOAD for details.

FILE JICST-EPLUS
FILE COVERS 1985 TO 15 MAY 2006 (20060515/ED)

THE JICST-EPLUS FILE HAS BEEN RELOADED TO REFLECT THE 1999 CONTROLLED
TERM (/CT) THESAURUS RELOAD.

FILE JAPIO
FILE LAST UPDATED: 3 APR 2006 <20060403/UP>
FILE COVERS APRIL 1973 TO DECEMBER 22, 2005

>>> GRAPHIC IMAGES AVAILABLE <<<

>>> NEW IPC8 DATA AND FUNCTIONALITY NOT YET AVAILABLE IN THIS FILE.
USE IPC7 FORMAT FOR SEARCHING THE IPC. WATCH THIS SPACE FOR FURTHE
DEVELOPMENTS AND SEE OUR NEWS SECTION FOR FURTHER INFORMATION
ABOUT THE IPC REFORM <<<

FILE HOME

FILE USPATFULL
FILE COVERS 1971 TO PATENT PUBLICATION DATE: 18 May 2006 (20060518/PD)
FILE LAST UPDATED: 18 May 2006 (20060518/ED)
HIGHEST GRANTED PATENT NUMBER: US7047565
HIGHEST APPLICATION PUBLICATION NUMBER: US2006107430
CA INDEXING IS CURRENT THROUGH 18 May 2006 (20060518/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 18 May 2006 (20060518/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2006
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2006